

PROGRAM OF STUDIES

2020 – 2021

Chelmsford High School



Principal's Message

In early February, you will begin the process of scheduling your course of study for the 2020-2021 school year. This process will culminate in June. The Program of Studies is published annually as a catalogue of courses offered at Chelmsford High School. It also contains detailed information and guidance to support you in choosing a course program that interests, challenges, and inspires you. Please take the time to read through the program of studies provided and consult with your teachers, your counselor, and your parents to make informed decisions as you progress toward meeting the graduation requirements of Chelmsford High School.

Chelmsford High School offers a wide variety of courses at a number of different academic levels to stimulate your curiosity, challenge your thinking, and promote your development as a 21st century learner. The course offerings that follow are designed and articulated to provide you with the depth and breadth of a comprehensive academic program while supporting your growth and progress toward our 21st Century Learning Expectations. Choose courses that carefully balance the rigor of a challenging academic course load with opportunities to broaden your horizons through our many extracurricular clubs, activities, and athletics.

In the Winter, students in grades 8, 9, 10, and 11 will be selecting courses for the 2020-2021 school year. Course offerings and staffing for the courses will be developed based upon student requests. Since the scheduling process only occurs once per year, it is critical for you to choose your classes and level of difficulty wisely. After this period of selecting classes, changes to student schedules cannot be made except in rare circumstances. Since the scheduling process occurs concurrently with the school budgeting process, **please note that some of the courses in this program may be modified or may not be offered as a result of student requests and/or budgetary constraints.** In situations like these, you will be able to enroll in classes required to meet graduation requirements. Choosing up to four (4) meaningful alternative courses will be an effective way to expedite this process.

We look forward to working together with you as you plan for your future at Chelmsford High School and beyond. The best part about being in a large school are the opportunities you have to explore a variety of different academic, co-curricular, and extracurricular offerings. I encourage you to take advantage of this opportunity, and choose an array of courses that challenges you academically, broadens your horizons, and stimulates your own curiosity, maturity, and growth.

Sincerely,



Stephen D. Murray
CHS Principal

“We foster PRIDE in the pursuit of excellence.”

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21st CENTURY LEARNING EXPECTATIONS: **Academic, Social, and Civic**

1. Demonstrate trans-literacy by communicating across a range of platforms, tools, and media.
2. Utilize real-world tools and other resources to access, evaluate, and share information in an authentic task.
3. Demonstrate information, flexibility, and adaptability in thinking patterns, work habits, and working/learning conditions.
4. Work independently and collaboratively to solve problems and accomplish goals.
5. Value and demonstrate personal responsibility, ethical behavior, and global awareness in both academic and social communities.

OVERVIEW OF COURSE SELECTION PROCESS

The processes of selecting courses and building students' schedules are complex and time-consuming. Please take the time to read through the course descriptions, and confer with your parents, teachers, and guidance counselor to choose courses carefully and request a course schedule that is appropriately challenging for you. Once student requests are compiled, course tallies are taken. Courses without sufficient enrollment are cancelled and a master schedule is built. Individual student schedules are then programmed and finalized. Students are notified of any scheduling issues and are given opportunities to amend their schedules and/or selections with their counselors. Courses needed to meet graduation requirements will be available.

The Program of Studies is a valuable resource for planning an appropriate educational program. Read through it the first time to get a general overview of the graduation requirements, course sequence, and overall expectations. Think about the courses in which you have an interest, and begin to read through these descriptions more closely to identify the ones you will elect for your next year of schooling. Talk to your parents about your interests and aspirations, and continue to narrow your selections. If you have questions or need more information, the most valuable sources of information will be your current teachers and your guidance counselors. Your current teachers have strong insight into the course curriculum, course expectations, and your current performance, while your counselor has a strong sense of graduation requirements and skills you will need to be successful as you plan for life after high school.

For any course that represents continued study within a department, the current teacher will confer with the student and then record the placement on the computer's Course Request File. When making a recommendation, the teacher will consider current and previous academic performance in the subject area and related subject area(s), current and previous performance on standardized tests (if applicable), performance on departmental placement tests (if necessary), and other classroom behaviors and habits that may be indicative of future success. This student-teacher conferencing will begin in January. Parents should speak directly to the teacher to answer questions about course or level placement. If the issue is still unresolved after conferring with the teacher, the parent may request an override. An override form can be obtained from the teacher, counselor or counseling office, and must be submitted to the Department Coordinator - for current 8th, 9th, 10th, and 11th graders the deadline is **February 14, 2020.** ***Please understand that a recommendation for an elective course does not equate enrollment in the course as some courses have class size and section number limits.

We strongly encourage students to maintain a reasonable balance among academic course load, extracurricular activities, and personal time to contribute to their social and emotional well-being. It is extremely important for students and parents to make informed decisions regarding which course and level are most appropriate for the student. Due to a variety of factors, the selection of a course should be considered a yearlong commitment. To maintain class sizes that are equitable for all students, it is very difficult to switch levels and/or courses once the schedule has been completed. As a result there can be no guarantee that space will be available in another course or level during a preferred block.

Students will enter their elective course choices online using the X2 Aspen Student Portal. Information about this process will be distributed through PLUS Blocks prior to the beginning of the course selection process. Please review the grid provided below to help focus your choices for the next school year.

	Students Entering Grade 9	Students Entering Grade 10	Students Entering Grade 11**	Students Entering Grade 12**
Typical Courses or Departments where they may be offered	English Social Studies Science Math World Language Health & Wellness	English Social Studies Science Math World Language Physical Education	English Social Studies Science Math Physical Education	English Math Health & Wellness
Number of Electives /other courses you may add	1 full year course and 1 semester course or 3 semester courses from any department	1 full year course and 1 semester course or 3 semester courses from any department	2 full year course and 1 semester course or 5 semester courses from any department	4 full year courses and a semester course or 9 semester courses from any department

**Please note, students interested in pursuing post-secondary educational opportunities should consider enrolling in 3 years of a World Language. Students contemplating post-secondary opportunities in the sciences should consider completing a full year physics course in high school.

Students are encouraged to select their academic program carefully. We believe that decisions about courses can be made within a reasonable period of time to best capitalize on the educational process.

Our intention is to complete the scheduling process by early June so that any schedule conflicts can be resolved before the end of the school year. **Opportunities for schedule changes during the summer and fall are very limited.** Do not hesitate to call for further information. Contact information is provided on **page 63.**

GRADUATION REQUIREMENTS

In compliance with the requirements set forth by the Commonwealth of Massachusetts and those affiliated with the recognition of Chelmsford Public Schools as a Federal Race to the Top school district, CHS will be shifting graduation requirements over the next few years to align with [MassCore](#). In accordance with the change, [MassCore](#) provides a course of studies to better prepare students to meet the career/college readiness standards. Given the rigorous standards CHS already employs, the shift impacts students in mathematics and in the fine and performing arts. After review of the graduating class of 2013, we found 93% of our graduates met the new standards in math for [MassCore](#), while 100% of our graduates met the new standards for the arts.

In addition to meeting the CHS course requirements below, all students in the Commonwealth are required to meet certain performance criteria on the Massachusetts Comprehensive Assessment System (MCAS). To receive a high school diploma, students must earn scaled scores of at least 240 on the grade 10 ELA and Mathematics tests, or earn a scaled score between 220 and 238 on these tests and fulfill the requirements of an Educational Proficiency Plan (EPP). Students must also earn a scaled score of at least 220 on one of the Science, Technology, Engineering MCAS (i.e., Biology, Chemistry, Introductory Physics, or Technology-Engineering).

Department/Academic Area	Classes of 2021,2022, 2023,2024
English	40 credits
Mathematics	40 credits
Science	30 credits
Social Studies	30 credits *
World Language	20 credits **
Fine & Performing Arts	10 credits
Practical Arts	5 credits
Physical Education	10 credits (Grades 10 & 11)
Health and Wellness	10 credits (Required Grade 9)
Other Courses/Electives	45 credits
Total Credits for Graduation	240 credits

* Requirements: World History 2, US History 1 & 2.

** Two years of the same World Language.

For a student to make successful progress toward graduation requirements and remain on par with her/his grade level, she/he must earn a minimum of 60 credits per school year. **Seniors, in addition to meeting all other requirements, you must earn at least 60 credits in your senior year.**

COURSE LEVELS

All of our courses are designed to prepare our students for the rigors of college and other post-secondary paths. Students will receive teacher recommendations regarding the course level in sequential subjects within departments. Although current grades are not the only indicator to be considered in placement decisions, your current performance in a course can serve as a reasonable indicator of future success. A student who has been earning grades in the B range or better should consider continuing in the same course level or advancing to the next level. A student who has been earning grades of D or an F may not be able to continue in the current level or sequence unless recommended or approved by the teacher. A student earning grades in the C range should consider continuing in the same course level or dropping a level. In each of these instances regarding level placement, it is recommended that students engage in a conversation with their teacher to determine the most appropriately challenging level for the student. The following course level descriptions are provided as a general guideline to students and parents to help determine the most appropriately challenging course level for students to participate. More detailed descriptions can be found within the specific course descriptions on the pages that follow.

All offered courses (except those considered not predictive of future academic achievement in college) are assigned a level according to the following criteria:

LEVEL AP Advanced Placement Courses

Advanced Placement (AP) courses are designed to move at a faster pace, cover a broader and potentially deeper curriculum than the Massachusetts Curriculum Frameworks articulates, and require significant independent work both inside and outside of the classroom. Successful students in these courses have a strong track record of high academic achievement as evidenced by academic grades in previous courses, standardized test scores, and motivation in the classroom. Students can typically grasp concepts from initial presentation. As a result, little class time will be spent practicing and/or reviewing concepts, but rather will be dedicated to extensive analysis, synthesis, and problem-solving. Students are expected to independently seek help and to organize and to budget their time for long-term assignments. The AP program is offered in the specific interest of three groups: secondary school students who wish to pursue college level studies while still in high school, schools that desire to offer these students the opportunity to do so, and colleges that wish to encourage and recognize such achievement.

AP Courses are offered in Art Portfolio, English, Calculus, Computer Science, Music Theory, Biology, Chemistry, Physics, US History, World History, American Government, Statistics, Psychology, French, and Spanish. In order to complete the AP curriculum and earn AP credits, a student must remain in the course for the full year. No partial credit will be awarded. Students are expected to take the AP Exam.

For more detailed information, follow the course description as described in the AP Course Description booklet - apcentral.collegeboard.com/highered

LEVEL 1 Honors 1 College Preparatory Courses (H)

These courses are more intensive than other courses experienced by the majority of our students. Classroom activities require a great deal of independent learning. Course content demands critical, creative, and analytical thinking. Courses will require that students demonstrate a comprehensive understanding of the structure of the discipline. Assignments of original design are required. These courses require: extensive reading, intensive application, analytical & creative thinking, and study to a greater depth of understanding.

LEVEL 2 College Preparatory Courses (CP)

Classroom activities are designed with a moderate amount of teacher assistance. While introducing new skills and concepts, students are extensively involved in interpretation, analytical, and creative thinking. Homework is both short-term and long-range and allows students to explore skills and concepts in more depth.

LEVEL 3 College Preparatory Courses 2 (CP 2)

Classroom activities are designed with a varying amount of teacher assistance. Through a variety of instructional strategies, learned skills and concepts are reinforced with increasing emphasis on interpretation, analysis, and other higher level thinking. Homework assignments are both short and long-term in duration and allow students to practice and explore skills and concepts in more depth.

POLICY FOR PROGRAM CHANGE CONSIDERATION

Allocation of staff, rooms, and the number of sections offered are determined by the number of student requests received for a specific course; therefore, students selecting full year courses are committed to remain in the course for the entire year. Also students selecting semester courses are committed to remain in these courses for the semester scheduled. Please choose your course carefully. Your choices, both for first semester and second semester, represent a commitment on your part. Exceptions are permitted under certain circumstances.

A course change, even if approved, cannot always be granted. When the proposed course has been closed due to class size or a change would create a conflict in a student's schedule, the intended change cannot be granted. If a level change is granted, the student will take with them the grade they earned from the previous class.

All students are expected to stay in their assigned classes until at least the first midterm grade report, unless an obvious need for change exists. Obvious need might include:

1. A computer generated scheduling error
2. Having the same teacher in the past, with an unsuccessful academic experience the previous year
3. Incorrectly leveled students
4. Career path changes

There are two types of schedule changes that are processed during the school year:

1. Students can move from one level of a course to a different level of the same course. This is called a level change.
2. Students can add a course and drop a different course. This is called a course change.

The deadlines for making these changes are as follows:

- Level changes may occur at any time during the school year IF initiated or approved by a Department Coordinator.
- The add/drop period takes place during the first two full weeks of classes in September. After the add/drop period, schedule changes need to be processed using an add/drop form with approval from the Department Coordinator.

During the last two weeks of any marking period no courses will be added or dropped. First semester and full-year courses dropped before the last two weeks of quarter one will be completely removed from the official transcript. Second semester courses dropped before the last two weeks of quarter three will be

completely removed from the official transcript. All courses dropped after these periods will receive a W (withdrawal) as a final grade, and receive no credit for the course.

The following procedure for schedule changes will be strictly adhered to:

1. Students seeking a schedule change should see their guidance counselor and receive an "add/drop" form.
2. Students obtain the signature of the teacher and department head/coordinator of the course(s) to be *added* first.
3. Students then obtain the signature of the teacher and department head for the course(s) to be *dropped*, giving that teacher an opportunity to work out any problem area *before* the student leaves the class.
4. Students take the "add/drop" form home to be signed by a parent/guardian.
5. Schedule changes taking place more than one week after the first mid-term of the course require permission of the appropriate Department Coordinator. In this case, students take the "add/drop" form to the Dean to be signed, and for the schedule changes to be implemented assuming there is room in the class(es) to be added.
6. There will be a 24-hour minimum waiting period for all schedule changes, unless determined to be of an emergency nature by the Dean or Principal.
7. Students must attend classes as assigned until schedule changes are processed and new assignments are made. *Students violating this policy will not be allowed to change courses.*

This policy is set in place to assure students the opportunity to change for legitimate reasons and discourage whimsical requests. Exceptions to the above policy might be changes made to balance classes; changes made to correct programming errors; or changes made in the interest of good mental health.

Appeal of Denied Schedule Change

1. Students who wish to appeal a denied schedule change must request a meeting with their Dean, their guidance counselor, and any faculty member or department coordinator who has denied the change. Parents/guardians must attend this meeting.
2. A copy of the appeal form will be distributed to the student, his or her guidance counselor, and each affected teacher.
3. If the problem is not resolved at the Dean's level, students and their parent/guardian should request an appeal hearing with the Principal at which all interested parties will be present.

Senior Year Schedule Changes

If a senior student changes his or her schedule after applying to a post-secondary school or program, the student must inform the school or program of the schedule change. At the conclusion of the school year, a final official transcript will be sent to the school or program the student is planning on attending. If there has been a change and the student did not inform the school or program, the student's integrity may be questioned. This may result in a rescission of an acceptance, especially if the change involved the dropping of a core subject class.

POLICIES ON ANTI-DISCRIMINATION

CHAPTER 622

An important piece of legislation affecting the public schools was passed in August of 1971. This law, Chapter 622 of the General Laws, Acts of 1971, is referred to as "An Act to Prohibit Discrimination in the Public Schools." The law reads as follows: *"No person shall be excluded from or discriminated against in admission to a public school of any town, or in obtaining the advantages, privileges and courses of study of such public school on account of race, color, sex, religion or national origin. This law makes it clear that all aspects of public school education must be fully open and available to members of both sexes and of minority groups. No school may exclude a child from any course, activity, service or resource available in that public school on account of race, color, sex, religion or natural origin of such child."*

On June 24, 1975, the State Board of Education approved regulations for Chapter 622. These regulations address five areas of school policy: school admission to courses of study, guidance, course content, extra-curricular, and athletic activities.

REHABILITATION ACT OF 1973 - SECTION 504

It is the policy of the Chelmsford Public Schools to comply with the regulations of the Department of Health, Education, and Welfare in implementing Section 504 of the Rehabilitation Act of 1973 which provides that:

"No otherwise qualified handicapped individual.....shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

The act defines a person with a handicap as anyone who:

1. has a mental or physical impairment which substantially limits one or more major life activities (major life activities including activities such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working)
2. has a record of such an impairment; or
3. is regarded as having such an impairment.

The Chelmsford Public Schools recognizes a responsibility to avoid discrimination in policies and practices regarding its personnel and students. No discrimination against any person with a handicap will knowingly be permitted in any of the programs and practices in the school system.

The school district has specific responsibilities under the Act, which include the responsibility to identify, evaluate, and if the child is determined to be eligible under Section 504, to afford access to appropriate educational services.

If the parent(s) or guardian(s) disagrees with the determination of the professional staff of the school district, he/she has the right to a hearing with an impartial hearing officer.

Inquiries regarding compliance with Section 504 may be directed to: Director of Student Services, 978-25-5100 Chelmsford Public Schools Administrative Offices, 230 North Road, Chelmsford, MA 01824

NCAA Initial Eligibility Standards



Students who plan to participate in Division I or Division II college athletics must register with the NCAA Clearinghouse. Once all materials have been submitted, the Clearinghouse issues a preliminary certification report to the college. At the end of your junior year and after you graduate, the Clearinghouse reviews your transcript to make a final certification decision according to NCAA standards. Students must also complete the amateurism questionnaire through the Eligibility Center website.

You will find throughout the course catalogue courses that have the NCAA logo (as seen above) next to the course name; these courses are NCAA approved and count towards NCAA eligibility. To be certified by the Clearinghouse, students must complete a specific number of approved core classes, attain a minimum score on the SAT or ACT, and achieve a minimum GPA. To see specific NCAA eligibility requirements, visit these sites for more information:

Division I Academic Requirements

http://www.ncaa.org/sites/default/files/2018DIEC_Requirements_Fact_Sheet_20180117.pdf

Division II Academic Requirements

http://www.ncaa.org/sites/default/files/2018DIIIEC_Requirements_Fact_Sheet_20180117.pdf

Division III Academic Requirements – Not Applicable



Dual Enrollment with Middlesex Community College (MCC)

In the Spring of 2018 Dual Enrollment with Middlesex Community College was introduced to CHS students in grades 10 and 11 for the upcoming school year. After course selection and collaboration with MCC CHS was able to offer 5 courses during the 2018-2019 SY that awarded students who performed to the MCC standard with college credit. For the upcoming 2020-2021 SY Juniors and Seniors will be offered more courses through the MCC/CHS Dual Enrollment Program. At this time here is the list of courses, pending approval, that hope to run. Also look for the MCC icon next to the course in the course descriptions below.

CORE Classes: A Senior Odyssey, Chemistry CP, US History II CP, Introduction to Statistics CP, Physics C, Physics H

Electives: Programming I, BioTechnology I, AP Chemistry, Anatomy and Physiology H, Forensic Science Sociology, Legal Rights, Photography II, Graphic Design I, Studio Art 3, Introduction to Acting, Improvisational Theatre, Accounting, Business & Career Pathways, Marketing, Management, Early Childhood Development III, Writing for College

For more information on the MCC Dual Enrollment Programming please visit:

<https://www.middlesex.mass.edu/dualenroll/about.aspx>

The AP CAPSTONE PROGRAM

AP Capstone™ is a College Board program that equips students with the independent research, collaborative teamwork, and communication skills that are increasingly valued by colleges. It cultivates curious, independent, and collaborative scholars and prepares them to make logical, evidence-based decisions.

AP Capstone is comprised of two AP courses—AP Seminar and AP Research—and is designed to complement and enhance the discipline-specific study in other AP courses. Participating schools can use the AP Capstone program to provide unique research opportunities for current AP students, or to expand access to AP by encouraging students to master the argument-based writing skills that the AP Capstone program develops.

The program fosters the research, argumentation, and communication skills that are at the core of college readiness and essential for lifelong learning. It provides a setting to build on the knowledge and rigorous coursework of AP in an interdisciplinary format. Finally, the course offers students a unique opportunity to distinguish themselves to colleges and universities.

Students who earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of their choosing will receive the AP Capstone Diploma. Students who earn scores of 3 or higher in AP Seminar and AP Research but not on four additional AP Exams will receive the AP Seminar and Research Certificate. AP Seminar may also be taken as a stand-alone option.

Selections from the AP Capstone Overview: <https://advancesinap.collegeboard.org/ap-capstone>

AP SEMINAR

10 Credits (#06113), Open to Grades 11 and 12

Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

Exploring different points of view and making connections across disciplines are fundamental components of the AP Seminar experience. Students will consider one topic or issue through a variety of lenses and from multiple perspectives, many of which are divergent or competing. Analyzing topics through multiple lenses aids in interdisciplinary understanding and helps students gain a rich appreciation for the complexity of important issues.

In addition to in-class assignments and assessments, students are assessed with two through-course performance tasks and one end-of-course exam. All three assessments are summative and will be used to calculate a final AP score (using the 1–5 scale) for AP Seminar.

Students who successfully complete AP Seminar are encouraged to enroll in the AP Research course in their senior year. Students who successfully earn a 3 or higher in both AP Seminar and Research and 4 other AP

courses will earn the AP Capstone Diploma. This signifies their outstanding academic achievement and attainment of college-level academic and research skills.

[AP Capstone Guide](#)

AP RESEARCH

10 Credits (#32013), Open to Grade 12 students who have successfully completed AP Seminar

AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year-long research based investigation to address a research question.

In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question. Although the topic of each research study will vary, the course requires students to plan and conduct a study or investigation. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of 4000–5000 words (accompanied by a performance or exhibition of product, where applicable) and a presentation with an oral defense.

Students who successfully earn a 3 or higher in both AP Seminar and Research and 4 other AP courses will earn the AP Capstone Diploma. This accomplishment signifies their outstanding academic achievement and attainment of college-level academic and research skills.

[AP Capstone Guide](#)

ENGLISH

- General Guidelines for Course Selection
- Freshman Year
- Sophomore Year
- Junior Year
- Senior Year
- English Electives

Students at Chelmsford High School are required to take a sequential four-year program in English that is designed to encourage each student to master a successive series of skills in reading, writing, speaking, and listening. In addition, the program provides students with a background in the major literature of their country and the world. In grades 9, 10, and 11, teachers will review each student's performance and make recommendations for the next school year's placement. To meet the individual needs and interests of students, a number of one-semester courses are offered in the sophomore, junior, and senior years which may be selected in addition to the required 10-credit semester course. Under ordinary circumstances, an elective course may not be taken as a make-up for a course that a student did not pass.

General Guidelines for Course Selection:

1. Students should read course descriptions very carefully to learn:
 - an overview of each course, including materials and approach
 - the level of reading and writing skills necessary for success in each course
 - the types of activities involved in each course

2. Students should select courses appropriate to their abilities, achievement levels, and future plans.
3. Students should consult with families, English teachers, and guidance counselors before making course choices.

FRESHMAN YEAR

The freshman English program emphasizes skills in reading and writing through a balanced exposure to a variety of literature and writing experiences. Literature will be taught through a focus on the elements of structure within each genre (short story, novel, drama, poetry and non-fiction). While many mechanical skills are a review, advanced grammatical skills are introduced to enable the student to deal with the complexity of thinking, writing, and reading.

ENGLISH 9 - H, CP **10 Credits (#00513, #00523), Grade 9**

All levels of this course (English 9H and English 9CP) will explore similar topics, but the depth and pace of instruction will be adjusted according to the students' abilities, backgrounds, and needs. All courses will help students master the knowledge and skills articulated in the Massachusetts State Frameworks for grades 9 and 10 in reading literature, reading informational text, writing and research, speaking and listening, grammar, and vocabulary. All students will further develop their reading, writing, and analytical skills. This course includes in-depth reading of major genres of literature with an emphasis on literary elements and universal themes. Students will begin to develop the skills necessary to write effective literary analysis. Students are expected to demonstrate their understanding of literature in class discussion and will complete vocabulary assignments. Mastering the skills assessed on the MCAS exam is one goal of the curriculum. A student who successfully completes this course will have a solid foundation in English Language Arts.

(Prerequisite: Teacher Recommendation required for English 9H)

WRITING FOR HIGH SCHOOL - CP **5 Credits (#07304)**

Writing for High School is a course designed to provide extra support to freshmen who could benefit from additional instruction in writing. The core of the course consists of multiple types of essay writing experiences that are essential, not only to a student's ability to demonstrate knowledge and understanding in all academic disciplines, but also to effect personal change. The course will focus on content, form, mechanics, and sentence structure. A second and equally important aspect of the course is the continuing development of the student's ability to use the writing process, especially through writer reflection and peer response, as a means to strengthen his/her performance as a writer. The focus on writer reflection and peer response will help students to develop the skills they need to reach their writing goals. Preparation for the MCAS test is another important aspect of the course. Students will write answers to narrative and text-based essays similar to those on the MCAS exam and receive critical feedback to improve their test-taking skills.

SOPHOMORE YEAR

The sophomore English program reviews skills in reading and in writing acquired in the freshman year and exposes students to various types of literature and writing assignments. In addition to a required 10-credit semester course, a sophomore may choose from the following one-semester 5 credit Practical Art electives:

- *Journalism (Practical Art)*
- *Public Speaking (Practical Art)*

ENGLISH 10 - H, CP



10 Credits (#02013, #02023), Grade 10

All levels of this course (English 10H and English 10CP) will explore similar topics, but the depth and pace of instruction will be adjusted according to the students' abilities, backgrounds, and needs. All courses will help students master the knowledge and skills articulated in the Massachusetts State Frameworks for grades 9 and 10 in reading literature, reading informational text, writing and research, speaking and listening, grammar, and vocabulary. English 10 offers students a course that strengthens reading comprehension skills while developing literature analysis skills through whole-class discussion and cooperative learning. The reading includes various literary periods and genres including essays, poems, short stories, plays, and novels. The reading is analyzed, discussed, and used as the basis of some writing assignments. An additional objective of the writing assignments is to develop the skills to organize, write, revise, and edit narrative and text-based essays similar to those on the MCAS exam and receive feedback. Students can expect regular work in vocabulary, reading, and writing.

(Prerequisite: Teacher Recommendation required for English 10H)

JUNIOR YEAR

The junior English program reinforces the skills in reading and writing acquired in the freshman and sophomore years by providing students with an overview of major American writers, movements, and literary works. In addition to a required 10 credit semester course, a junior may elect the following one-semester 5 credit electives and/or the new 10 credit AP Seminar Elective:

- *AP Seminar--Capstone Program (10 Practical Art credits)*
- *Angels, Demons, Heaven, Hell, and Last Things*
- *Creative Writing*
- *Fairy Tales, Folklores, and Legends*
- *Journalism (Practical Art)*
- *Public Speaking (Practical Art)*

AP – ENGLISH LANGUAGE AND COMPOSITION



10 Credits (#04013)

The purpose of this course is to help students become both skilled readers and confident writers. The course is organized around five units: an introductory unit, three thematic units, and a final course unit following the administration of the AP exam in May. While certain units have a thematic focus and contain seminal works of American Literature, the ultimate purpose behind each unit is to develop students' understanding of analytical strategies. Students are exposed to a variety of texts, including speeches, essays, articles, editorials, political or commentary-based cartoons, advertisements (both written and visual), passages from memoirs, plus selected poems and short fiction designed to mirror the rhetorical devices found throughout the readings of the course. By allowing students to read prose written in a variety of rhetorical contexts, they will be able to understand and employ the skills necessary to become writers who can compose for a variety of purposes (The College Board, *AP English Language and Composition Course Description*, 2010). Student writing features a series of steps, including initial drafts, self-edits, peer and teacher conferences, and final drafts. They will also study how authors take into account aspects such as audience and context. Students will learn how to arrange ideas, structure their arguments, select appropriate rhetorical devices, and master the language that will allow them to become more effective writers.

Prerequisite: Teacher Recommendation)

The Seminar Approach

Students act as daily discussion leaders for assigned readings, first in small teams and later individually, and

the instructor acts as facilitator. Students receive evaluations based on both their seminar presentations and interactions with other student presenters.

The Advanced Placement Program

The Advanced Placement Program is a collaborative effort among motivated students, dedicated teachers and committed high schools, colleges and universities that allows high school students to earn college credit or placement while still in high school. The corresponding exam for this course is the AP English Language and Composition Exam. Taking this exam is the expected outcome of taking this course; it is the culminating assessment. Additionally, students may take the AP English Language and Composition Exam without having taken the course. Although the specific college courses that AP credit will satisfy differ from college to college, each exam represents a year's college-level work (up to two semesters of credit).

(Condensed and summarized from: <http://apcentral.collegeboard.com>)

ENGLISH 11 - H, CP



10 Credits (#03013, #03023)

All levels of this course (English 11H and English 11CP) will explore similar topics, but the depth and pace of instruction will be adjusted according to the students' abilities, backgrounds, and needs. All courses will help students master the knowledge and skills articulated in the Massachusetts State Frameworks for grades 11 and 12 in reading literature, reading informational text, writing and research, speaking and listening, grammar, and vocabulary. This course explores the range of American literature from the colonial period to the present in a variety of genres: novels, short stories, plays, poems, essays, and biographies. Students will have the opportunity to sample major authors' works and, with the help of small and large group discussion, will become better acquainted with the major themes in American literature. Class instruction will help students to progress from factual reading to an understanding of more complex symbols and concepts. They will continue to develop the writing skills necessary to write literary analysis essays. Preparation for the SAT exam is included. This course will include a personal essay unit, resulting in a product which could be used as a college application essay. (Prerequisite: Teacher Recommendation required for English 11H)

SENIOR YEAR

Students who have successfully completed the freshman, sophomore, and junior English requirements are eligible to fulfill their senior English requirement. Senior English continues to build on the reading and writing skills of previous years and broaden students' literary experiences in several areas. In addition to a required senior course, students may choose from the following one-semester 5-credit electives:

- *Angels, Demons, Heaven, Hell, and Last Things*
- *Advanced Placement Research--Capstone Program (10 Practical Art Credits)*
- *Creative Writing*
- *Fairy Tales, Folklores, and Legends*
- *Journalism (Practical Art)*
- *Public Speaking (Practical Art)*

AP ENGLISH 12 – LITERATURE AND COMPOSITION



10 Credits (#05013)

The senior year Advanced Placement Program in English is quite demanding and is, by definition, equivalent to a freshman Honors English literature course in college. The course requires active reading and the perceptive examination of literature as well as the mastery of all elements of composition (structure), style, theme, and technique. Students participating in this program engage in intensive critical reading and analysis of works chosen for literary merit, complexity of thought, intricacy of structure and richness of style. Several critical and/or research-based essays focusing on literature are required; in addition, there will

be exams on the units studied and in-class essays. The course is organized by genre, offering readings in fiction, poetry, and drama from around the world and from many different periods of literature (largely from the 16th century to the present). Students will strive to comprehend artistry and context (both social and historical) through several critical “lenses” and write to analyze and/or present arguments. The basic three-tiered progress of the examination of literature moves from experience to interpretation to evaluation. A seminar approach is used, but teacher-directed instruction will also take place from time to time. To prepare students for the AP Exam in English Literature and Composition, the teacher will administer an AP Exam previously given by the College Board in addition to several multiple choice and essay practice sessions provided to students over the course of the year. (*Prerequisite: Teacher Recommendation*)

The Seminar Approach

Students act as daily discussion leaders for assigned readings, first in small teams and later individually, and the instructor acts as facilitator. Students receive evaluations based on both their seminar presentations and interactions with other student presenters.

The Advanced Placement Program

The Advanced Placement Program is a collaborative effort among motivated students, dedicated teachers and committed high schools, colleges and universities that allows high school students to earn college credit or placement while still in high school. The corresponding exam for this course is the AP English Literature and Composition Exam. Taking this exam is the expected outcome of taking this course; it is the culminating assessment. Additionally, students may take the AP English Literature and Composition Exam without having taken the course. Although the specific college courses that AP credit will satisfy differ from college to college, each exam represents a year’s college-level work (up to two semesters of credit).

(*Condensed and summarized from: <http://apcentral.collegeboard.com>*)

A SENIOR ODYSSEY - CP



10 Credits (#06023)

This yearlong course is designed to expose students to a variety of literary themes and genres through the use of both classic and modern literature in order to provide them with a diverse learning experience. A wide range of topics and themes will be covered through genres including contemporary literature, world literature, film, graphic novels, theology, and philosophy. The core themes of this class will include, but are not limited to, ethical choices, the hero, self and society, identity, and the human response to conflict. Reading, writing, and speaking activities that relate to the works and themes studied will foster student skill development and critical thinking. Students will work individually, in pairs, in small groups, and in teacher conferences to continue their development of reading, writing, and analytical skills and to increase their understanding and appreciation of a wide variety of literature.

ELECTIVES

ANGELS, DEMONS, HEAVEN, HELL, AND LAST THINGS--CP

5 Credits (#06224), Open to Grades 11 and 12

This interdisciplinary course will explore the great verbal and visual texts about “last things.” Topics to be covered will include heaven, hell, purgatory, the soul, the supernatural, angels, demons, the afterlife, eternal punishment, justice, and judgment. We will examine biblical, historical, literary, artistic, and theological foundations of “last things” as well as how contemporary reconstructions and commentaries on these topics might speak to modern society. Students will examine images and stories of heaven, hell, and moral judgment from ancient Egypt to modern film. Texts, artwork, and topics may include Milton’s *Paradise Lost*; Blake’s *Marriage of Heaven and Hell*; Dante’s *Divine Comedy* (Inferno, Purgatory, and Paradise); Hebrew and Christian biblical texts, especially the Apocalypse or Revelation; texts about heaven (Jannah), hell (Jahannam) and angels (jinn) from the Qu’ran; classical underworlds in Homer, Plato and Virgil; Michelangelo’s and Bosch’s paintings of last things; and the films *What Dreams May Come*, *The Five People You Meet in Heaven*, or *Ghost*. This course will honor multicultural worldviews and respect the contributions of multiple voices. Interfaith perspectives (Buddhist, Jewish, Christian, Muslim, Hindu, non-religious, etc.) will also be considered.

CREATIVE WRITING--CP

5 Credits (#07624), Open to Grades 11 and 12

This semester course allows students to develop skills and techniques of creative expression in the genre of poetry, short fiction, and drama. While students are able to select their own themes and forms of expression, there are also class activities to strengthen such writing skills as selecting precise words, choosing sensory details, eliminating mechanical errors, and recognizing elements of style. Students are asked to establish deadlines for their progress, write daily, and be willing to share their work and ideas in small group discussions and teacher conferences. Students should enjoy writing and have a solid understanding of the writing process.

FAIRY TALES, FOLKLORE AND LEGENDS--CP

5 Credits (#06424), Open to Grades 11 and 12

This course analyzes the structure, meaning, and function of the folk tale, specifically fairy tales and legends and their enduring influence on literature and popular culture. While we will concentrate on the works of the Brothers Grimm, Charles Perrault, and Hans Christian Anderson, we will also consider fairy tales drawn from a number of different national traditions and historical periods including the American present. We will investigate the evolution of specific tale types and trace their transformations in various media from oral storytelling through print to film, television, and the stage. In addition, we will explore how interpretations of the tales have changed over time and represent the norms, social consciousness, or beliefs of the period in which they were created. The legend unit will focus directly on the tales of King Arthur and his evolution through time and place. In this class the students will be encouraged to find their own voice and ideas and be able to effectively communicate those thoughts in both oral and written form. This class reinforces the interpretive skills taught in earlier years and encourages students to extend their ability to analyze and evaluate literary works.

JOURNALISM--CP



5 Credits (#07024), Open to Grades 10, 11, 12 (Practical Art)

This course is a one-semester elective open to sophomores, juniors, and seniors. The purpose of this journalism course is two-fold. First, through learning the history of journalism and the role the media plays in society, students will be challenged to critically analyze the news media. The course will foster an

environment where students can question bias and develop the ability to identify authentic and “good” (reliable) sources and information. With this information, students will also build upon the skills taught in their English courses to experience non-academic writing and writing for an audience outside of the high school community. Additionally, students will acquire the knowledge and skills to not only be published, but also to publish newspapers, understand the different story styles and requirements, execute layout and graphic design. Students will study local, metropolitan and national newspapers and magazines. They will examine the work of accomplished journalists and establish standards for their own writing. While the course will focus primarily on journalistic writing for newspaper and magazine, students will investigate the impact of radio, television and Internet on the news media. These units will investigate the writing behind these forms of communication and discuss the impact they have made on newspaper writing and media overall.

PUBLIC SPEAKING--CP



5 Credits (#07704), Open to Grades 10, 11, 12 (*Practical Art*)

In this elective course, students learn the fundamentals of communication including interpersonal and group communication in addition to individual public speaking. Students are able to explore their own interests and speaking styles as they write and present speeches to the class; through rehearsal and viewing of their classmates’ and their own speeches, they also gain insights as listeners. In their formal speeches, students explore the formats and nuances of verbal explanation, information, persuasion, and argumentation through debate. Participation is a vital component of the course as students work in groups, perform impromptu speeches, and critique speeches they observe. Skills developed will help students in future college and work settings.

WRITING FOR COLLEGE--CP



5 Credits (#07121), Open to Grade 12

To be successful in this class a student must be self-motivated and capable of working independently. Writing for College is a workshop in which students work to develop writing skills that will both help them with their college application process and enable them to be successful writers at the university level. During the semester, students prepare essays following the writing process from topic search to final draft. As they bring each essay to publishable form, students develop a number of skills that enable them not only to produce essays for their college admission packages, but also to meet the demands of writing in college classes. Professional and student-written models help students to define effective writing and set personal writing goals. The process of continual response and revision encourages students to work cooperatively with their peers and with their teacher to develop their personal writing strengths and to eradicate persistent problems, especially in the areas of clarity and correctness. In this class, students are expected to be active participants who contribute meaningfully to the peer response process, seek response to their work from their teacher and their peers, and, most importantly, are willing to revise, revise, revise. Students are required to attempt a number of different types of prose writing, drawing upon a variety of resources: observation, personal experience, interviews, and research. By the end of the course, students should regard and practice writing as a continuing process of drafting, feedback, and revision. Success in this class includes, but is not limited to, writing essays of personal experience, persuasion, description, definition, and social and cultural issues.

READING

READING FOR HIGH SCHOOL - CP



5 Credits (#08804)

Reading for High School is a course designed to provide extra support to freshmen who could benefit from additional instruction in reading and study skills. The core of the course consists of opportunities for students to improve comprehension of reading in the content areas and to understand the elements of a text book and text structure. Students will also learn and review reading strategies to promote comprehension in order to expand their study skills and improve online reading strategies. Preparation for the MCAS test is another important aspect of the course. Students will respond to fiction and non-fiction passages as well poetry similar to those on the MCAS exam and receive critical feedback to improve their test-taking skills.

READING SKILLS AND STRATEGIES - CP

5 Credits (#08404), Grades 9 - 12

Reading Skills and Strategies is a course that explicitly teaches reading strategies that improve fluency and comprehension of fiction and non-fiction to struggling readers. Award winning novels and short reading selections are the focus of the curriculum. The course will focus instruction on effective strategies such as identifying text structure and reading strategies that improve fluency and comprehension of fiction and non-fiction. Reading Skills and Strategies is intended for students who have previously taken Reading for High School, or who struggle with comprehension. Students who have not yet met proficiency levels on the MCAS are also recommended.

SOCIAL STUDIES

The Social Studies program at Chelmsford High School is designed to assist students in becoming informed citizens, fully aware of the need for ensuring the dignity and worth of the individual, personally involved in improving the society they have inherited, and capable of recognizing the interdependence of all peoples. The goals of the program are developed through a variety of semester-length and full-year courses. The content of these courses draws upon the various social science disciplines. These courses develop skills necessary in gathering, analyzing and evaluating information. A student should attempt to construct a balanced program from the Social Studies offerings over the four years at Chelmsford High School. In addition to satisfying graduation requirements, a student will want to select courses from History, Social Sciences, and interdisciplinary electives. Thirty credits of Social Studies are required for graduation from Chelmsford High School. *Students must pass World History II, United States History I and United States History II to meet the requirements for graduation from Chelmsford High School.*

WORLD HISTORY II—H, CP



10 Credits (#32413, #32423), Grade 9

This course surveys world geography, history, and related studies from the French Revolution to the present. Students will focus on a thorough review of the social, economic, religious, scientific and technological factors that have shaped world history since the 1800s. Instruction includes the use of text, secondary and primary source materials designed to develop inquiry, interpretation, and critical thinking as well as a variety of print and electronic instructional materials. This course requires analytical reading and writing. Additional writing and a summer reading assignment are required in the Honors level course.

UNITED STATES HISTORY I H, CP



10 Credits (#32513, #32523), Grade 10

In United States History 1, students briefly review European exploration and colonization of the New World as well as the colonial period. Students examine the historical and intellectual origins of the United States during the Revolutionary and Constitutional eras. Students study the basic framework of American democracy and the basic concepts of America government in order to develop a deeper understanding and appreciation of civics. Additionally, students will study America's westward expansion, the establishment of political parties, economic and social change, sectional conflict, the Civil War, and Reconstruction. This course requires analytical writing and is designed to instill in the student an understanding and appreciation of his or her heritage. A variety of resources including videos, records, primary sources and simulations are used in this course.

AP UNITED STATES HISTORY



10 Credits (#33013), Grade 11

The Advanced Placement course in American history is a course that will provide students in their junior year with the analytic skills and facts necessary to deal critically with problems and materials in American history. Students will be prepared for intermediate and advanced college courses by the demands of the advanced placement course, which are equivalent to those of full-year introductory college courses. Students will learn to assess historical materials--their relevance to a given interpretive problem, their reliability and their importance--and to weigh the evidence and interpretations presented in historical scholarship. A major research paper is required.

UNITED STATES HISTORY II - CP



10 Credits (#33523), Grade 11

In United States History II, students analyze the causes and consequences of the Industrial Revolution and America's growing role in international relations. Students study the goals and accomplishments of the Progressive movement and the New Deal. Students also learn about the various factors that led to America's entry into World War I and World War II as well as the consequences of World War II for American life. Finally, students study the causes and course of the Cold War, important economic, social and political changes during and after the Cold War, such as the Civil Rights movement, and recent events and trends that have shaped modern-day America. This course requires analytical writing. *Students must have successfully completed US History I.*

SOCIAL STUDIES ELECTIVES

AP AMERICAN GOVERNMENT AND POLITICS



10 Credits (#38113), Grade 11 + 12

This Advanced Placement course in American Government and Politics is designed to give students a critical perspective on government and politics in the United States of America. It involves the study of general concepts used to interpret American politics and the analysis of specific case studies. It requires familiarity with various institutions, groups, beliefs and ideas that make up the American political reality. Students will be prepared for intermediate and advanced college courses by making demands upon them equivalent to those of full year introductory college courses. Students will be prepared to take the Advanced Placement Exam in American Government and Politics.

AMERICAN HISTORY THROUGH FILM CP

5 Credits (#39124), Grade 12

This H2 course is for seniors interested in the portrayal of events of American History on the big screen. This course will examine Hollywood feature films and historical dramas as historical evidence. During the course, students will view movies on a span of events from the inception of the United States to present

day. The Standards from the Massachusetts State Curriculum Frameworks and the Common Core Standards are an integral component of this course. Students are expected to utilize research, comparative analysis, and critical thinking skills as they determine the value of each film to the American understanding of past events. The continued development of discussion, debate and writing skills will be a central part of the course. Students will research historical events in the United States using primary and secondary sources to have a better understanding of the events they see portrayed in the films. Students will utilize and write film reviews and critical commentaries related to the films. Students will be expected to produce comparative essays in which they identify the specific events and consequences of those events with the stories and myths presented in the films.

CIVICS CP (*Practical Art*)

5 Credits (#38724), Grade 11 + 12

An educated citizenry is essential. This course is designed to help students enhance their civic knowledge and skills. The course takes students beyond the foundational study of government structures and history and focuses on the roles and responsibilities of citizenship at the local community, state, and national levels. Students will learn how each level works in order to “promote the general welfare” and what that means with regards to legal, social and economic policy. The Town of Chelmsford and its governance will be a significant focus of our studies. Students will explore the various, often competing perspectives regarding major policy issues facing our citizens today, and how to analyze, deliberate, and discuss the issues and the arguments from those different viewpoints. We will consider the role that a “free press”, media and social media play in our political past, present and future. Emphasis will be placed on a classroom community in which dialogue and respectful debate occur in order to enhance a student’s capacity to communicate, as both an active speaker and listener. Students will participate in a dynamic classroom environment that encourages civil discourse, collaboration, inquiry, experiential learning (visits to the Town Hall and State House) and connects them with elected officials and community representatives.

COMMON LAW AND TRIAL PROCEDURES I—H

10 Credits (#39313), Grade 11 + 12

Common Law and Trial Procedures will provide students the opportunity to learn about the fundamentals of the American judicial system and how it can impact their lives in ways they might not otherwise imagine. The course will further students’ understanding of the law, court procedures, civil liberties and the American legal system. It will also increase proficiency in basic life skills, such as listening, public speaking, rote memorization, reading, and analytical reasoning. Students are required to think independently and develop their advocacy skills regardless of which side of an issue is being presented. Most importantly, the course will promote better communication and cooperation between the student, Chelmsford High School, and the legal profession. Students who take Common Law & Trial Procedures will be required to participate in the Massachusetts Bar Association’s Mock Trial program. This unique experience will heighten the student’s consciousness of law-related professions and the academic studies which lead to those professions. Many schools in the state participate in this competition-based program, including well-known educational facilities from the private sector.

**There is an application process to be considered for enrollment in this course. Please see the Social Studies Department Coordinator or Mr. Cole for the application and information, including deadlines.*

COMMON LAW AND TRIAL PROCEDURES II - H

10 Credits (#39413), Grade 12

The course will provide students the opportunity to expand their knowledge about the fundamentals of the American judicial system and how it can impact their lives in ways they might not otherwise imagine. The course will further students' understanding of the law, court procedures, civil liberties and the American legal system. It will also increase proficiency in basic life skills, such as listening, public speaking, rote memorization, reading, and analytical reasoning. Summer reading is required in this course. Students are required to think independently and develop their advocacy skills regardless of which side of an issue is being presented. Most importantly, the course will promote better communication and cooperation between the student, Chelmsford High School, and the legal profession. Students who take Common Law and Trial Procedures II will be required to participate in the Massachusetts Bar Association's Mock Trial program. This unique experience will heighten the student's consciousness of law-related professions and the academic studies, which lead to those professions. Many schools in the state participate in this competition-based program, including well-known educational facilities from the private sector. *Common Law and Trial Procedures II is available to seniors who have taken CLTP I during their junior year. There is an application process to be considered for enrollment in this course. Please see the Social Studies Department Coordinator or Mr. Cole for the application and information, including deadlines.*

THE HOLOCAUST AND GENOCIDE STUDIES: A STUDY IN HUMAN BEHAVIOR



5 Credits (#38424), Grade 11 + 12 CP

This course, open to Juniors and Seniors, will provide students with an opportunity to more deeply investigate events in Germany before, during, and after World War II related to the attempted extermination of the Jewish peoples and other ethnic and political minority groups in Europe. Appropriate print materials, films, and guest speakers will be used to help the students understand the cause, nature, and enduring consequences of the Holocaust. A sociological approach will allow students to see how individuals and small groups are influenced by man's inhumanity to man. Through a case study exploration of historical and modern genocides, students will learn to recognize the actions (subtle and overt) of individuals and institutions that seek to perpetuate racism and hate. Students will utilize dialogue and critical analysis to develop potential strategies for minimizing factors that contribute to the persistence of racism and genocide.

INTERNATIONAL RELATIONS—H



10 Credits (#38813), Grade 12

This Honors level course is for seniors interested in the United States and its role in international affairs. Students will attain a global perspective and understanding of international issues including the rise of nations, colonialism, and government practices. Students will examine world events such as environmental concerns, coups, treaties, peace accords, genocides, natural disasters, failed states, terrorism, zones of chaos, and resource wars. Through lively dialogue and debate, students will analyze and attempt to resolve

conflicts and determine the role of the United States in global affairs. Students appropriate for this course should enjoy group discussions, independent research, and the complexity of international issues.

LEGAL RIGHTS AND RESPONSIBILITIES CP



5 Credits (#36124), Grade 10, 11, 12

This is a practical law course which deals with the most basic principles of individual rights and the judicial process as it affects the daily life of a student. It is designed to acquaint students with various aspects of law such as criminal law, juvenile law, drug laws and the court system and how it works. Attention will also be given to correctional institutions and their effectiveness. The major part of this one-semester course will focus on a student's individual rights and responsibilities as they affect him/her today. It will also include relevant films, guest speakers and field trips to local courts or correctional institutions.

ADVANCED PLACEMENT PSYCHOLOGY



10 Credits (#37013), Grade 12

This college level course is designed to introduce students to the biological and theoretical foundations of Psychology. The course will cover material ranging from the historical roots of this social science to the anatomical structure and function of the brain and sense organs. Emphasis will be placed on investigative research, analysis, interpretation, and writing skills. Students will explore the concepts that today's psychologists are continuing to research. Students will be expected to take on the demands of a college level course, including additional reading assignments during the summer and throughout the school year. Students are required to purchase a copy of Lauren Slater's "Opening Skinner's Box" and read the book prior to the first class meeting of the school year. Test taking and writing skills will be addressed throughout the course to prepare students for the Advanced Placement Psychology Exam in May.

PSYCHOLOGY I CP



5 Credits (#36824), Grade 11 + 12

This course for juniors and seniors is designed to introduce students to the biological and theoretical foundations of psychology. The course will encourage students to develop analytical skills, conduct research, investigate the mind-body connection, analyze the concepts of consciousness, evaluate the theories of personality, develop an understanding of psychological disorders, evaluate the role and effectiveness of treatments, and analyze the theories of intelligence. Students will be expected to demonstrate their understanding of psychology through various projects, discussions, and assignments.

PSYCHOLOGY II CP



5 Credits (#36922), Grade 11 + 12

This semester 2 course allows students who have successfully completed Psychology I to expand their knowledge in this discipline. Students will more deeply investigate such topics as, sensation and perception,

motivation and emotion, learning, human development, and personality. This course provides an in depth study of current psychological issues. Emphasis is placed on research, analysis, interpretation, and writing skills. Students planning to major in the social sciences in college should consider taking this course. *This course is open to students who have completed Psychology I.*



SOCIOLOGY CP

5 Credits (#36424), Grade 11 + 12

Sociology is strongly recommended for college-bound juniors and seniors. It is designed to aid students in understanding today's dynamic and rapidly changing world. This course has been developed to show the complexity of social life with its interconnections between social events and conditions. It includes a study of major social institutions, socialization, social stratification and the relationship of the personality problems of youth to these social forces. Through a series of experiments and research projects, students explore some examples of the sorts of problems sociologists study utilizing the methods of sociologists.



SPEECH AND DEBATE – H, CP *(Practical Art)*

5 Credits (#34011, #34021), Grade 9 - 12

Semester I. This course is open to freshman through seniors and is designed to introduce students to Speech and Debate. The course is ideal for those students who want to learn how to speak effectively and develop strong analytical skills. Skills developed in these events transfer into business, theater, law and government, and teaching. The class begins with an exploration of the common elements of both Speech and Debate. Every student starts in Debate, but after the first tournament students can opt to remain focused on Debate or choose from a variety of Speech events. Students select their events and prepare for their events with the guidance of the teacher. Students will engage in research, writing, preparing, editing and revising debate cases or their speech piece. Time will be given to students to practice for their presentations, where they will receive feedback and direction to improve upon the debate case or speech piece prior to tournaments. There are no textbooks, no tests, no quizzes. Students are required to compete in at least two Saturday Massachusetts Speech and Debate League tournaments (Think dressed up field trip!). Course grades are based on student preparation, effort, completion and participation. If a student wants Honors credit, they must compete in a third tournament within the semester, in any event of their choosing.

STEM

STEM curriculum involves 4 specific disciplines — Science, Technology, Engineering and Mathematics— applied using interdisciplinary methods to solve problems. Creativity and innovation combined with basic knowledge acquired in these courses prepares students for post secondary opportunities in STEM careers. CHS offers rigorous courses in all 4 years and students are encouraged to plan a pathway beginning in 9th grade to maximize opportunities to master a concentration of academic knowledge and technical skills.

SCIENCE

The Science Department offers coursework at three academic levels. Specific placement information is listed for each course below. All AP courses are designed, audited and aligned with [College Board](#) and may require summer work. Level 1 Honors courses are by teacher recommendation only. The recommendation is based upon performance across Science and Mathematics as the courses are designed to fit the rigor of enrolling in a subsequent AP or college level science course. Students must complete 30 credits of lab-based science courses in order to graduate, and all courses meeting the Lab-based criteria are listed with the course description.

ENVIRONMENTAL SCIENCE CP

10 Credits (# 26223), Grade 9, Lab - Based

This activity-based course provides a foundation for the future study of Earth Science, Biology, Chemistry, and Physics through hands-on learning experiences geared towards the understanding and application of Environmental topics. Students will understand and apply the 8 core Science Practices into a variety of community-focused projects through the demonstration of hands-on experiments and effective use of technology.

Pre-requisite: Completion of Grade 8 Science

AP BIOLOGY



10 Credits (#22013), Grades 10, 11, 12, Lab-based

This second year Biology course will consist initially of a review and enrichment of the major concepts from first year Biology. This will be followed by a fast-paced, intensive study of selected topics in Biology as set forth by the College Board. Included among these are, but not limited to: plant and animal growth and development; embryology; cellular physiology; genetics; animal structure; biological systems and relationships. The course emphasizes the unifying themes in biology, showing the connections between the different areas of study. AP Biology is designed for highly motivated science students who intend to pursue a science related major in college. Students in this course should be prepared for some independent learning due to the volume of material covered. In addition to in-class discussions, laboratory experimentation, and independent learning, students will have an opportunity for peer share learning. The course will also emphasize techniques in preparation for the AP Biology exam in May.

Students will be required to complete summer homework prior to the beginning of the academic year. Homework Requirements: Students are expected to read chapter material prior to in-class discussions. Nightly homework will average 1 to 2 hours.

Prerequisite: Success in Honors Biology, and concurrent enrollment or credit in an Honors Chemistry Course

BIOLOGY—H, CP



10 Credits (#22413, #22423), Grade 9,10, Lab-based

This first year Honors Biology course is designed to prepare students for the next generation of science standards and practices. The high school biology content standards build from middle school and allow grade 9 or 10 students to explain additional and more complex phenomena related to genetics, evolution, the functioning of organisms, and interrelationships between organisms, populations, and the environment. There is significantly higher academic expectations of students in honors level courses. Students are required to complete daily homework assignments and are expected to be more independent and highly motivated. Frequent laboratory exercises, designed to correlate with text materials, provide students with opportunities to learn and use techniques and equipment associated with biological research. Independent reading, research and writing assignments extend learning beyond the classroom. Students are expected to take the MCAS Biology assessment in the spring.

Prerequisite for Honors: Recommendation of Physical Science teacher; incoming freshmen must have teacher recommendation, Term average of 93 or higher in 8th grade science, Benchmark average in the Exceeding Range, and one of the following: placement into Honors Math or received an advanced score on the grade 7 ELA MCAS Exam.

BIOLOGY II CP2



10 Credits (#22633), Grade 10, Lab-based

This sophomore level course is designed to continue to give students a basic understanding of the scientific processes of biology or give transferring students who have not taken an MCAS Science Exam the content and skills necessary for the state assessment. Emphasis is geared to the successful completion of the MCAS test in biology. Laboratory investigations enrich the concepts for each unit. All units are based upon the required MCAS standards for science competency. Students should expect 20-30 minutes of homework for practice and reinforcement most nights. Students enrolled in this course, who have not passed a science MCAS test, will take the Biology MCAS test in June.

Prerequisite: Completion of Biology I.

ANATOMY AND PHYSIOLOGY—H



10 Credits (#23013), Grade 11 + 12, Lab-based

This biology elective is an academically rigorous course that is designed to provide a background for those students anticipating study in medical or health fields in the future, or for students with an interest in how the human body functions. Topics include: anatomical terminology, histology, and an examination of the structure, function and disease of body systems. The text is written at a college reading level and many college level lab activities are conducted. The lab activities require motivated and independent students. All students are required to be active participants in a cat dissection for this course. Students will learn how to use a stethoscope, blood pressure cuff, spirometer, and other equipment in the lab. Homework will average around one hour per night.

Prerequisite: Successful completion of Honors Biology, advanced performance in H2 Biology recommended

AP CHEMISTRY



10 Credits (#24013), Grades 11 + 12, Lab-based

After a review and enrichment of major concepts from first year chemistry, this second year Chemistry course provides an intensive study of selected topics in chemistry. Included among these are: nuclear chemistry and organic chemistry; reaction kinetics, acid/base equilibrium; thermodynamics; and electrochemistry. The student must be self-motivated and industrious. There are extensive homework assignments and frequent laboratory reports to write that will require 1-2 hours of work each day. Much of

class time will be spent in the lab with time allotted for answering questions. This is a full year course. Students will be required to complete chemistry work over the summer prior to the beginning of the school year.

Prerequisite: Successful performance in Honors Chemistry

CHEMISTRY—H, CP   **(CP only)**

10 Credits (#24213, #24223), Grades 10 + 11, Lab-based

The major focus of chemistry is on matter and its interactions. Standards for motion and stability, including forces and interactions help students explain structure property relationships in terms of forces and interactions, and to consider the energetic stabilities of structures as a driving force in predicting a variety of observable response properties. Standards about energy help students demonstrate understanding of energy transfer and dissipation of energy in chemical systems. Honors Chemistry is a full year course created for students who have demonstrated a sincere interest in the sciences with students independently using algebra skills in the context of the chemistry curriculum. Chemistry CP may be taken as a Dual Enrollment course with Middlesex Community College as a general science credit (CHE 121).

Prerequisite for Honors: Successful performance in Honors Biology, successful performance in an Honors level Algebra-based Mathematics course, teacher recommendation.

AP PHYSICS 1 

10 Credits (#25213), Grade 11 + 12, Lab-based

This is an in-depth, mathematically rigorous, course in physics that is equivalent to the depth, time, and rigor to a first semester college course in algebra-based Physics. The course is designed to prepare students for future study in the core science areas (biology, chemistry or physics), mathematics or other professional fields such as pre-med, pre-dental, veterinary study or engineering. It is also designed for all science majors and other students wishing to demonstrate their ability to meet the challenge of an advanced placement course. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; and mechanical waves and sound. It will also introduce electric circuits. Projects, technical writing and lab work play an important role in this course. Homework will be approximately one hour per night and will average 4 days per week.

*Prerequisite: Successful completion of Honors Physics or current Science teacher recommendation, advanced performance in Algebra II H. **Summer work will be required and assessed for all students. Separate additional summer work will be required and assessed for any student who has not completed a high school Physics course.***

AP Physics C  

10 credits (#25013), Grade 12, Lab Based, Dual Enrollment

This course is for students strongly considering a degree in engineering, physics, or chemistry at the post-secondary level. Students must have completed or are enrolled in AP or Honors Calculus concurrently in order to take this course. Students must also have completed a physics course prior to enrollment. This course offers a conceptual and rigorous mathematical approach to physics, and an advanced understanding of high school math is assumed. Differential and integral calculus are applied to topics outlined by College Board for the AP Physics C: Mechanics exam. Topics included are 1- and 2-dimensional motion, forces, work, energy, power, momentum, circular motion, gravitation, rotational motion, and simple harmonic motion. Students performance will be based upon several performance tasks such as investigation reports, homework assignments, tests, quizzes, mid-year and final examinations. Participating colleges may grant credit and / or appropriate placement to those students who qualify based on the AP Exam.

Prerequisite: Successful completion of Honors Physics or AP Physics 1, placement into or completion of AP Calculus AB or BC

PHYSICS - H, CP   **(CP Only)**

10 Credits (#25113, #25223), Grade 11 + 12, Lab-based

High School Physics standards expect students to apply a variety of science and engineering practices to three core ideas of physics:

1. **Motion and Stability:** helps students answer the question, “How can one explain and predict interactions between objects and within systems of objects?” Students are able to demonstrate their understanding by applying scientific and engineering ideas related to Newton’s second law, total momentum, conservation, system analysis, and gravitational and electrostatic forces.
2. **Energy:** develops students’ understanding of energy at both the macroscopic and atomic scales, and helps students answer the question, “How is energy transferred and conserved?”
3. **Waves and their Applications:** technologies for information transfer support students’ understanding of the physical principles used in a wide variety of existing and emerging technologies, which helps students answer the question, “How are waves used to transfer energy and send and store information?”

Lab investigations, demonstrations, and collaborative activities are designed and structured for each level offered within the curriculum.

Prerequisite for Honors: Successful performance in previous Honors level Science course, or advanced performance in previous H2 level science course, and successful performance in Algebra II H.

ENVIRONMENTAL STUDIES - CP 

10 Credits (#26123), Grade 11 + 12, Lab-based

This is a full year lab based elective course designed for students who intend to go to college as non-science majors, and replaces last year’s Environmental Science course. The course is divided into two general topic areas: abiotic (non-living) and biotic (living) environmental factors. Within these topic areas, the course focuses on ecosystems, material cycling, human and environmental influences, succession, and environmental problems. Students will demonstrate mastery of the concepts by addressing authentic issues that affect the world today through completion of a variety of group and individual projects, presentations, and other collaborative exercises.

Prerequisite: Successful completion of Biology or Chemistry

AP ENVIRONMENTAL SCIENCE 

10 Credits (#26013), Grade 12, Lab-based

The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Coursework is designed to prepare students for the AP Environmental Science Exam in May. Students in this course should be prepared for some independent learning due to the volume of material covered.

Homework Requirements: Students are expected to read chapter material prior to in-class discussions, complete study guides, practice exams, and complete lab reports. Nightly homework can average 1 to 2 hours. **Summer homework will be required;** see the instructor for resources before the end of the school year.

Prerequisite: Advanced performance in H2 or H Biology & H2 or H Chemistry; Algebra proficiency, including scientific notation and dimensional analysis

BIOTECHNOLOGY I CP



5 Credits (#22124), Grade 10, 11, 12

This second year Biology elective provides students with basic biotechnology laboratory skills in order to introduce them to biotechnology concepts, in addition to the business aspect of the industry. A “hands-on” laboratory course, it focuses on widely used biotechnological techniques and theoretical application in biotech industry standards including biological molecule manipulation, transformation and identification. Students will learn techniques that apply to biological drug applications, bioinformatics, and Good Lab Practices (GLP), such as sterile technique and maintaining a lab notebook.

Prerequisite: Successful completion of a Biology course.

BIOTECHNOLOGY II - H (pending NCAA Approval)

5 Credits (#22114), Grade 11 + 12

Biotechnology II is an intensive course focusing on topics necessary for the understanding of the biotechnology industry and multidisciplinary skills required for careers in research. Topics will include plasmid design, protein expression, purification, storage conditions, and validation. Focus will be on knowledge of protein peptide formulation, lyophilization process, and storage stability. Validation issues will deal with practical application of validation principles for the biotechnology industry, drug approval process, validation monitoring and regulations. In protein purification, the students will utilize in techniques used in purification; different procedures in chromatography; affinity ion exchange, absorption, and reduced vs. non-reduced SDS-PAGE. Students will also gain theoretical knowledge of HPLC, fluorescence, and Mass Spectrometry. Course material will be taken directly from the current, primary literature with emphasis on conduction laboratory research, student presentations, and discussion.

Prerequisites: Successful completion of Biology course, successful completion of or concurrent enrollment and good standing in Chemistry, and Biotechnology I

FORENSIC SCIENCE CP



5 Credits (#24324), Grades 10-12

Course Description: Students will explore forensic skills by integrating criminal investigative techniques with hands-on experience in the scientific procedures now used in the modern crime laboratory. Students will learn evidence collection, chemical and physical analysis of the evidence and crime scene, and focus on how modern techniques affect investigations. Students will also focus on how to present results in investigative reports both written and oral.

Prerequisite: Successful completion of Biology

INTRODUCTION TO ORGANIC CHEMISTRY CP

5 Credits (#24424), Grades 11-12

Course Description: Organic chemistry is a second year chemistry course that provides an introduction to carbon-containing compounds. The course is focused on the chemical structure of hydrocarbons and their derivatives. The course will cover organic nomenclature, mechanisms, stereochemistry, IR Spectroscopy, Mass Spectroscopy and NMR analysis. The continued development of laboratory skills - including small molecule synthesis and analysis - and the multiple ways to report results will also be a major focus of the course.

Prerequisite: Successful completion of Chemistry

TECHNOLOGY

CHS technology courses develop students STEM concepts in Computer Programming, Robotics and Technology (IT). These in-demand careers require specific technology skill sets and these courses give students a solid foundation while developing student enthusiasm for those fields. Students in these courses have access to environments such as the CHS Tv studio, state of the art engineering software and hardware or computer science coding simulations and a knowledge base rich in technical expertise. Each of these courses is considered a practical art credit under CHS graduation requirements.

PROGRAMMING 1 – CP **10 Credits (#17723), Grades 10, 11, + 12**

Programming 1 is a Dual Enrollment 4 credit lab course with Middlesex Community College. This course is a project based course designed to provide students with an introduction to the processing of information by the computer, computer logic, memory, input/output processing, and programming in the C/C++ language. This course emphasizes the programming problem-solving process, problem organization, algorithms, coding, debugging and the elements of good programming style. Programming problems will include a wide variety of numeric and non-numeric applications. No prior programming experience necessary. This course is considered a practical art. *Prerequisite: Algebra 1*

PLTW AP COMPUTER SCIENCE PRINCIPLES - AP **10 Credits (#17613) Open to Grades 10, 11, + 12**

The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data as well as working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computer apps based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems as well as discuss and write about the impacts these solutions could have on their community, society, and the world. *Prerequisites: Algebra 1*

Note: Visit College Board Advanced Placement online to see a complete list of topic

AP COMPUTER SCIENCE A - AP **10 Credits (#17513), Grade 11 + 12**

This course prepares students for the AP Computer Science A exam by emphasizing object-oriented programming methodology through problem solving and algorithm development and is meant to be the equivalent of a first-semester course in computer science. It also includes the study of data structures and abstraction. The course will cover Object-Oriented Program Design, Program Implementation, Program Analysis, Standard Data Structures, Standard Algorithms, and Computing in Context. This course is considered a practical art. *Prerequisite: Completion of Programming 1, teacher recommendation and summer work*

Note: Visit College Board Advanced Placement online to see a complete list of topic

ROBOTICS – CP **5 Credits (#69824), Grade 9 - 12**

Robotics is a one semester course that focuses on creative problem solving and machine behaviors. The robots are built with VEX Clawbots and are programmed in ROBOTC.. Each class will be presented with the similar components and programming exercises, but the challenges that students will solve will vary from term to term. This Robotics course ties in with the after school Robotics Club and all course students

can participate in the competitions if they wish. The general types of exercises will include: following a wall or a line, knocking things over, picking up and moving objects. The challenges will be inspired by real world problems that robots face—search and rescue, moving of hazardous waste, warehouse management, etc. This course may be used for Practical Arts credit.

Prerequisite: None

COMMUNICATION/MEDIA 1 - CP

5 Credits (#81002) Open to Grades 9-12

Communication/Media 1 is project based and includes direct instruction as well as experience in producing and TV broadcasting. The topics include:

- Overview of Mass Media (Radio, TV, Internet)
- News Media
- Broadcasting of Other Events (Elections, Olympics, etc.)
- Pod Casting
- Impact and Effect of Advertising on Media
- The roles of PBS vs. Commercial TV
- Ownerships of Various Media
- Public Service Announcements
- Introduction to Multi-camera Production
- Visual Effects from the Fine Arts Angle
- Subject Lighting
- Conducting and Taping Interviews
- Journalism

Prerequisites: None

TV & BROADCASTING - CP

5 Credits (#81201) Open to Grades 9-12

This course provides students the knowledge and skills to produce television broadcast programs. Typically, students prepare and produce short programs, learning the technical aspects of the operation and how to evaluate programming and assess audience reaction and impact

Prerequisites: None

TECHNOLOGY TROUBLESHOOT AND REPAIR - CP - Fall Semester

5 Credits (#68021) Open to grades 10-12

Learn technology troubleshooting and technology repair skills while mastering quick tips and techniques to assist users with technology issues. Find out how CHS technologies are deployed and maintained. This course will prepare you to work on the Student Help Desk or become part of the Summer Tech Crew as well as provide valuable IT skills for use in other settings. Computer technicians need a deep understanding of hardware as well as strong communication skills to effectively communicate solutions to technical and non-technical individuals and you will learn to interface with both equipment and the individual users. This course is ideal for methodical problem-solvers with an aptitude for learning and quickly adapting new skills. Patience, resourcefulness and a desire to help other are desirable in technical support and help desk roles.

Prerequisites: Enrollment is limited. Teacher approval

STUDENT HELP DESK INTERNSHIP - CP - Spring Semester

5 Credits (#68024) Open to grades 10-12

Do you want to be part of an exciting technology opportunity where you will work with computer

technicians and other students to be the first point of contact for students, staff and faculty seeking assistance for technology issues at CHS? Apply skills learned in the Technology Troubleshoot and Repair class(#68021) to technology issues in Chelmsford Public Schools equipment. Diagnose, repair and replace equipment as assigned while working in conjunction with CPS technicians. Learn more while working in a guided learning situation. *Prerequisites: Enrollment is limited. Teacher approval. Not required but recommended either Summer Tech Crew or Technology Troubleshoot and Repair Course.*

ENGINEERING

CHS Engineering courses provide an engaging hands-on application of STEM skills and immerse students in exciting experiences which empower students to move into engineering careers. The classes are project based and showcase student products by providing opportunities in CAD, parts design, 3D printing, architectural design, mechanical and electrical engineering.

Engineers solve problems by using their own innovative ideas and applying them to authentic problems to create a new reality. Engineering skills are in high demand and CHS courses engage students in compelling, real-world challenges to develop a problem solving mindset which will serve them well in college and beyond. Project Lead the Way (PLTW) courses add an additional dimension of competitions, scholarships and internships.

PLTW: INTRODUCTION TO ENGINEERING DESIGN - CP

10 Credits (#25323) Open to Grades 9-12

This full year Science course is ideal for students who want to dig deeper into the engineering design process, applying math, science, and engineering standards to hands-on projects. Students work both individually and in teams to design solutions to a variety of problems using 3-D modeling software, and use an engineering notebook to document their work. The Project Lead the Way (PLTW) courses engage students in hands-on activities, projects and problems, empower them to develop in-demand knowledge and skills, and inspire them to reimagine and see themselves as successful in STEM fields.

Prerequisites: None

PLTW: PRINCIPLES OF ENGINEERING — H

10 Credits (#25413) Open to Grades 9-12

In this full year Science course students are engaged in challenging problems, exploring a broad range of engineering topics including mechanisms and automation, then apply what they know to take on challenges like designing a self-powered car. Students develop skills in problem solving, research, and design skills while learning strategies for design process documentation, collaboration, and presentation. The Project Lead the Way (PLTW) courses engage students in hands-on activities, projects and problems, empower them to develop in-demand knowledge and skills, and inspire them to reimagine and see themselves as successful in STEM fields.

Prerequisites: None

INTRODUCTION TO WOODWORKING AND DESIGN - CP

10 Credits (#69223), Grade 9 - 12

This course is designed to give students hands-on learning opportunities to gain basic skills operating tools and machines to implement and construct furniture and or modular projects in the Technology shop. 21st Century manufacturing technology, material processing and measurement system theory concepts will be integrated. Students will evaluate furniture design criteria of the past, present and future. They will learn technical drawing techniques; solve geometric layouts, scale, proportion and perspective drawing. There will

be opportunities for students to work and contribute in collaborative groups as well as individual project work. Understanding and adhering to Industrial Safety Standards is a primary requirement for each student. Both the student and parents must sign a safety contract for participation in this course to help ensure a personal commitment to safety procedures. Grades will be based on the safety contract and student conduct as well as class participation, project work, technical drawings and design. Written tests will include vocabulary, machine safety, measurement and industrial concepts in current manufacturing practice.

INTERMEDIATE WOODWORKING AND DESIGN - CP

10 Credits (#69323), Grade 10 - 12

This course is a continuation of Introduction Woodworking Design and in teams or individually, is intended to cover a variety of concepts and systems within the construction industry. Project work will be done in the technology shop and the CADD lab. The related theory covers design process, technical drawing techniques, automation, material properties and machine technology. Competency Based Skills will be continually assessed on the proper and safe use of tools and machines. A progression into the utilization of CAD/CAM software (Carbide Create, Autodesk, VectorWorks) with CNC wood machining equipment enables students to develop custom projects in conjunction with the Business and Marketing courses for sales and distribution. Students can also expect other assessments including; chapter work, safety quizzes, presentations, CAD and technical drawings; plus hands-on projects and models.

Prerequisite: Successful completion of Introduction to Woodworking and Design

ADVANCED WOODWORKING AND DESIGN - CP

10 Credits (#69423), Grade 11 - 12

This course is a continuation of Intermediate Woodworking and Design. Students are expected to explore more advanced methods of design and residential construction, with an emphasis on methods, practices and management. Construction or manufacturing engineering research projects outside of class with a presentation of proficiency are required. Design drawings and project work will continue to progress from the introductory level. Design Challenges with a variety of materials and ideas requiring more complex designs and drawings will be the ultimate goal.

Prerequisite: Successful completion of Intermediate Woodworking and Design (#69323) or competency determination

INTRODUCTION TO ARCHITECTURE AND CIVIL ENGINEERING - CP

10 Credits (#69523), Grade 9 - 12

Architecture and Civil Engineering is the study of the design and construction of residential and commercial building projects. The course includes an introduction to many of the varied factors involved in building design and construction including building components and systems, structural design, stormwater management, site design, utilities and services, cost estimation, energy efficiency, and careers in the design and construction industry. *(See Articulation Agreement between area colleges and Chelmsford High School)*

Prerequisite: None

INTERMEDIATE ARCHITECTURE AND CIVIL ENGINEERING - CP

10 Credits (#69623), Grade 10 - 12

This course is designed as an advanced continuation of **Introduction to Architecture and Civil Engineering H2**. A combination of architectural models, engineering drawings and design concepts will be explored in greater depth. Students will analyze, design and build electronic and physical models of residential and commercial facilities. While implementing these designs students will continually hone their interpersonal skills, creative abilities and understanding of the design process. A specific focus on new trends in green construction, alternative energy, and new materials will take place. Students can expect assessments including chapter work, tests, quizzes, research papers, CADD drawings and 1-2 hours of homework a week.

Prerequisite: Successful completion of Introduction to Architectural and Civil Engineering (#69523) or competency

determination

ADVANCED ARCHITECTURE AND CIVIL ENGINEERING - CP

10 Credits (#69723), Grade 11 + 12

This course is designed as an advanced continuation of Intermediate Architectural and Civil Engineering. The aim of this course is to complete a Capstone Project; an architectural project that is a demonstration of the student's readiness and capacity to engage in the possibility of obtaining a degree of higher learning in architecture or civil engineering. As third-year students in Architecture and Civil Engineering, students are expected to execute work relative to a precise theoretical and practical hypothesis or proposition, communicate intentions and results clearly, proceed according to a pertinent program, employ appropriate research methods, adhere to a coherent schedule, and formulate criteria for determining the success of the project.

Prerequisite: Successful completion of Intermediate Architecture and Civil Engineering (#69623) or competency determination

MATHEMATICS

In order to address the individual needs of students at Chelmsford High School, the mathematics program offers a wide range of courses which vary in content and level of difficulty. All courses will be taught using a variety of instructional strategies and appropriate, available technology. Various forms of assessment will also be used in all classes. All courses will be 10 credit full year courses except where noted. In order to be sure to select the most appropriate course, students are urged to confer with their current mathematics teacher, mathematics coordinator and/or guidance counselor. All students who would like to move up must have the recommendation of their current teacher and should have an A+ in the current course

ALGEBRA I – H, CP, CP2



10 Credits (#12213, #12223, #12233), Grade 9

This Algebra I course covers Expressions, Equations, and Functions; Solving, Writing, and Graphing Linear Equations and Inequalities; Systems of Equations and Inequalities; Exponential Functions; Polynomials and Factoring; Quadratic Equations; Data Analysis; and Probability. Students will be required to keep a notebook, read and interpret the algebra text and some independent work. Emphasis will be placed on investigating and solving real world problems that will include open-ended and open-response questions to assist in preparing students for the MCAS exam. Since the course will advocate and encourage the proper use of technology, the purchase of a TI-nSpire CAS CX graphing calculator is recommended.

GEOMETRY – H, CP, CP2



10 Credits (#13213, #13223, #13233), Grades 9 & 10

All levels (Geometry—H, Geometry—H2, and Geometry) will cover similar topics but the depth and pace of coverage will be adjusted according to the students' abilities, background, and needs. The Geometry H course focuses more heavily on proof-writing than the other levels of geometry offered. This course is designed to develop geometric thinking starting with the visual and progressing to the analytical, then developing concepts inductively and finally moving to deductive reasoning by using a variety of activities and investigations. Students will work in a variety of settings and configurations to continue the

development of mathematical thinking and problem solving skills. They will use the language of geometry to study and form conjectures about geometric figures and concepts in both 2 dimensional and 3 dimensional space, as well as apply their knowledge to practical, real-life problems, which involve measurement, formulas, inductive reasoning, and deductive reasoning. This course can be taken simultaneously with Algebra II. Since the course will advocate and encourage the proper use of technology, the purchase of a TI-nSpire CAS CX graphing calculator is recommended.

Prerequisite for Honors: Algebra I H a grade of 85%.

ALGEBRA II – H, CP, CP2

10 Credits (#14213, #14223, #14233), Grades 10 + 11

This Algebra II course covers Linear Functions (review), Quadratic Functions, Complex Numbers, Polynomial Functions, Rational Exponents and Radical Functions, and selected lessons from Rational Functions. Students will be required to keep a notebook, read and interpret the algebra text and some independent work. Emphasis will be placed on investigating and solving real world problems that will include open-ended and open-response questions to assist in preparing students for the MCAS exam. Since the course will advocate and encourage the proper use of technology, the purchase of a TI-nSpire CAS CX graphing calculator is recommended.

Prerequisite for Honors: Algebra I H grade of 85%, Algebra 1 H2 grade of 95% or higher and the recommendation of your teacher.

Quantitative Reasoning and Problem Solving– CP

10 Credits (#14433), Grades 11 + 12

This two semester yearly course is designed for students who have successfully completed Algebra II. The objective of this course is to enable students to see modern usage of mathematical applications in the real world. One semester will focus on topics which include: mathematical decision making with regard to stocks, car interest rates, inflation, personal finance and budget. The remaining semester will focus on researching home market data analysis to make conjectures for logical progression of market trends, calculate mortgage rates & loans, calculate commission percentages, taxes and proration, escrow, closing costs, down payment and residency budget. This course will help students develop college and career skills such as collaborating and conducting research which will prepare them for real world math application.

Prerequisite: Algebra II (14233)

PRE-CALCULUS—H

10 Credits (#15213), Grade 11

Honors Pre-Calculus is designed to cover those topics essential to the study of calculus and it will complete the student's preparation to meet the requirements for the SAT II Math II Exam. Students taking this course will pursue an in-depth study of functions which are used to model the data we encounter when solving real world problems. There is special emphasis on exponential, logarithmic, and trigonometric and inverse trigonometric functions as well as sequences and techniques in data analysis. Additionally, students will learn how to graph in the polar coordinate plane. The Ti-nSpire CAS CX calculator will be used regularly to enhance and facilitate the understanding of solutions to problems. Students will learn how and when to use available technology, but will also be made aware of its limitations.

Prerequisite: Algebra II H with a grade of 85% or higher or Algebra II H2 with a grade of 95% or higher and Teacher Recommendation

PRE-CALCULUS CP & CP2



10 Credits (#15223, #15233), Grade 11 + 12

This course will provide students an applications-oriented, investigative mathematics curriculum. The curriculum will emphasize functions and how they can be used as models for real world behavior. Linear, exponential, logarithmic, periodic, polynomial and trigonometric functions will be investigated with the use of graphing calculators, computers, and data collection devices. How and when to use technology as well as its limitations will be discussed. Graphing calculators (TI-nSpire CAS CX) will be used on a daily basis in class and for homework.

For students interested in taking AP calculus, successful completion of pre-calculus honors is necessary.

Prerequisite: Algebra II

INTRODUCTION TO STATISTICS – CP



10 Credits (#15423), Grades 11 + 12

This full-year course is designed for students who have successfully completed Algebra II. The course will introduce students to statistical reasoning and methods that are relevant in the fields of medicine, business, education, political science, psychology and entertainment. Topics will include design of experiments and sampling techniques, data analysis and displays, probability and counting principles, discrete probability distributions, normal probability distributions, confidence intervals, and hypothesis testing. Students will be required to keep an organized notebook, read and interpret the textbook, and do independent work. Emphasis will be placed on investigating and solving real world problems that will include open response questions for a variety of applications.

Prerequisite: Algebra II H or CP

AP STATISTICS



10 Credits (#15413), Grades 11-12 predominantly, with special exceptions for Grade 10

Advanced Placement Statistics is a yearlong course for students who are interested in studying statistics in depth. The AP Statistics course will prepare students to take the AP Statistics exam. Emphasis will be given to real-world applications in a variety of disciplines, including medicine, business, education, political science, psychology, sports, and entertainment. Major topics will include:

- Exploring Data – observing patterns and departures from patterns
- Sampling and Experimentation – planning and conducting a study
- Anticipating Patterns – producing models using probability theory and simulation
- Statistical Inference – estimating population parameters and testing hypotheses

Students will be required to keep an organized notebook, read and interpret the textbook, and do independent work. Homework will require students to identify appropriate methods for solving problems, show detailed work to support their answers, and provide thorough explanations of their results. In communicating results to problems, particular attention will be given to the proper use of statistical vocabulary and accurate explanations of statistical concepts and methods.

The TI Nspire CX CAS graphing calculator is used for this course. Students will also use statistical software to practice and strengthen their understanding of statistical concepts. In addition to frequent assessments that include both multiple choice and open response type questions, there will be 1-2 projects per term. Projects will provide students an opportunity to gain hands-on experience and make connections between different parts of the course.

Prerequisite: Teacher recommendation and completion of summer work is required for all students. Additionally, Algebra I H and Algebra II H students must have a grade of 80% or higher, and Algebra II CP students must have a grade of 90% or

higher.

Note: Visit College Board Advanced Placement online to see a complete list of topics.

CALCULUS 1—CP

10 Credits (#16523), Grade 12

This is a problem driven course. Practical, real world problems considered from a geometrical, numerical, and algebraic point of view guide this course. In this context students study differential calculus. Since this course will advocate and encourage the proper use of technology, the purchase of a TI-nSpire CAS CX graphing calculator is strongly recommended as a way of helping students to think mathematically and to connect their learning to the real world.

AP CALCULUS (AB)

10 Credits (#16313), Grade 12

Advanced Placement Calculus is a year-long course for students who have a thorough knowledge of algebra, geometry, analytic geometry, and the properties of functions. Students will receive an introduction to the differential and integral calculus of elementary functions, including algebraic, trigonometric, exponential functions and their inverses. Additional topics include L'Hôpital's Rule, integration by parts, slope fields, rotational volume, and solving differential equations. Concepts will be pursued from multiple points of view, with algebraic, geometric, and numerical approaches given to the understanding of the concepts of calculus and their applications. The level of theory and rigor is that prescribed by the Advanced Placement Program of the College Board, and the use of graphing technology is required. This course will prepare a student to take the Calculus AB test.

Prerequisite: Pre-Calculus—Honors(#15213), Teacher Recommendation and Completion of a summer work is required for all students. For both AB and BC AP Calculus.

Note: Visit College Board Advanced Placement online to see a complete list of topics. For both AB&BC AP Calculus.

AP CALCULUS (BC)

10 Credits (#16413), Grade 12

Advanced Placement Calculus (BC) is a year-long course for students that have a thorough knowledge of algebra, geometry, and the properties of functions. Students will complete the above course description for AP Calculus (AB). AP Calculus (BC) builds upon and extends the concepts explored in Advanced Placement Calculus (AB). Topics covered include the calculus of vector and polar functions, logistic differential equations, integration by partial fractions, and Newton's method. Additionally, series and polynomial approximations, including Taylor series and test for convergence, will be a major area of study. This course will prepare a student to take the Calculus BC test. Students who take the Calculus BC test will also receive a Calculus AB score.

WORLD LANGUAGE

To address the challenges of living in a global society, the World Language Department offers classes that develop and refine communication skills, promote intellectual curiosity, and broaden cultural awareness. In order to prepare our graduates to become citizens of the world, students at Chelmsford High School are required to study **two** sequential years of language, but are **strongly recommended** to study a third and fourth year. A variety of instructional strategies, visual and print media sources, and technology tools are

used to recreate an authentic learning environment. Active participation in class discussion and completion of assignments beyond classroom instruction are essential aspects to being successful and achieving proficiency in another language.

FRENCH 1—CP

10 Credits (#41023), Grades 9-12

This introductory course is designed to expose students to the language and cultures of the French-speaking world. Students will develop basic proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In highly structured and contextualized situations, students will learn to ask and answer simple questions as they communicate about themselves, their families, and their friends. They will hold basic conversations about school, food preferences, fashion trends, and vacation plans, and they will respond to written prompts about their daily lives and responsibilities. There is a strong emphasis on vocabulary acquisition and verb conjugation at this level. French will be used as much as possible during classroom instruction.

It is recommended that students who choose French 1-H2 on the course selection sheet also make an alternative language selection. For incoming Grade 9 students who studied French in middle school, participation in this course is by teacher recommendation.

FRENCH 2

10 Credits (2H - #41313; 2CP - #41323), Grades 9-12

This level is designed for students who have successfully completed Grade 8 French at the middle school level or introductory French at Chelmsford High School. Students will continue to develop proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In structured and culturally contextualized situations, students will use the language practically and creatively to describe, gather and clarify information, and express opinions. Students will converse and write about topics relating to holiday gatherings, food preparation, daily routines, and academic choices. They may discuss and analyze the fairytales of Charles Perrault. Students will continue to expand their vocabulary base and increase their knowledge of verb conjugation and time frame. Class will be conducted primarily in French.

Participation in the Honors level is by teacher recommendation.

FRENCH 3

10 Credits (3H - #41513; 3CP - #41523), Grades 10-12

This intermediate level is designed for students who have successfully completed French 2. Students will continue to develop proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In more open-ended and culturally relevant situations, students will use the language practically and creatively to complete a variety of tasks relating to childhood memories, entertainment, and healthy lifestyles. To expand the number and type of situations in which students can function using the language, students will continue to broaden their vocabulary base and expand their knowledge of verb tense and conjugation to express events in the past, present, and future. Students will read and discuss typical childhood antics in the stories of *Le petit Nicolas*. They may analyze excerpts from the works of Marcel Pagnol as well as select fables by La Fontaine. Class will be conducted in French.

Participation in the Honors level is by teacher recommendation.

FRENCH 4

10 Credits (4H - #42013; 4CP - #42023), Grades 11-12

This intermediate level is designed for students who have successfully completed French 3. Students will continue to build proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In open-ended and culturally contextualized situations, students will narrate and discuss, question and debate, and reach consensus on topics which explore the question of individual identity in relation to society. Themes to be explored include education and career choices, current events, advertising and the media, art and technology, and health. Students will watch select audio visual clips, discuss news articles, and analyze authentic literary sources spanning several centuries. Vocabulary acquisition will be guided by topics discussed in class and grammar explanations will highlight exceptions. Class will be conducted exclusively in French.

Depending on enrollment requests, French 4H2 may be offered concurrently with French 5H2. Alternative curriculum choices and rotating course syllabi will be offered in such circumstances. French 4H prepares students to take AP French Language and Culture as a senior. Participation in the Honors course is by teacher recommendation.

FRENCH 5—CP

10 Credits (#42423), Grade 12

This course is designed for students who have successfully completed French 4-H2. Students will continue to build proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In open-ended and culturally-relevant situations, students will continue to improve their creative and practical use of the language. They will investigate and debate topics relating to politics, the arts, the environment, and social relationships. Students will continue to increase their vocabulary base and expand their knowledge of French grammar to allow them to function in a variety of new situations. This course will be conducted exclusively in French.

Depending on enrollment requests, this course may be offered concurrently with French 4-H2. Alternative curriculum choices and rotating course syllabi will be offered in such circumstances.

AP FRENCH LANGUAGE AND CULTURE

10 Credits (#42913), Grade 12

This course is designed for students who have successfully completed French 4 Honors. This course will continue to build proficiency in the three modes of communication: interpersonal, interpretive, and presentational. Elaborating upon themes studied in previous courses, students will continue to explore the question of identity and how it is conveyed across a range of domains including politics and government, family and ancestry, literature and music, and the environment. Students will watch select film clips, analyze fiction and nonfiction texts, and interpret data. They will evaluate and synthesize information from a variety of print and media sources and will respond verbally and in writing to culturally-contextualized concepts, themes, and ideas introduced in class. AP French Language and Culture is the equivalent of a third year college conversation and composition class. This course prepares to take the AP French Language and Culture exam at the end of senior year. This course will be conducted exclusively in French.

Participation in this course is by teacher recommendation.

SPANISH 1—CP

10 Credits (#43023), Grades 9-12

This introductory course is designed to expose students to the language and cultures of the Spanish-speaking world. Students will develop basic proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In highly structured and contextualized situations, students will learn to ask and answer simple questions as they communicate about themselves, their families, and their friends. They will hold basic conversations about their homes, favorite restaurants, fashion preferences,

and vacation destinations, and they will respond to written prompts about their daily lives and responsibilities. There is a strong emphasis on vocabulary acquisition and communication at this level. Spanish will be used as much as possible during classroom instruction.

It is recommended that students who choose Spanish 1-H2 on the course selection sheet also make an alternative language selection. For incoming Grade 9 students who studied Spanish in middle school, participation in this course is by teacher recommendation.

SPANISH 2



10 Credits (2H - #43313; 2CP - #43323), Grades 9-12

This level is designed for students who have successfully completed Grade 8 Spanish at the middle school level or introductory Spanish at Chelmsford High School. Students will continue to develop proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In structured and culturally contextualized situations, students will use the language practically and creatively to describe, gather and clarify information, and express opinions. Students will converse and write about topics relating to daily routines, healthy lifestyles, and residential life. They may discuss and analyze authentic legends from a variety of Spanish-speaking regions. Students will continue to expand their vocabulary base and increase their knowledge of verb conjugation and time frame. Class will be conducted primarily in Spanish.

Participation in the Honors level is by teacher recommendation.

SPANISH 3



10 Credits (3H - #43513; 3CP - #43523), Grades 10-12

This intermediate level is designed for students who have successfully completed Spanish 2. Students will continue to develop proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In more open-ended and culturally relevant situations, students will use the language practically and creatively to complete a variety of tasks relating to childhood memories, shopping, and the environment. To expand the number and type of situations in which the students can function using the language, students will continue to broaden their vocabulary base and expand their knowledge of verb tense and conjugation to express events in the past, present, and future. Students may read and discuss excerpts from select short stories and novels. Class will be conducted in Spanish.

Participation in the Honors level is by teacher recommendation.

SPANISH 4



10 Credits (4H - #44013; 4CP - #44023), Grades 11-12

This intermediate level is designed for students who have successfully completed Spanish 3. Students will continue to build proficiency in the three modes of communication: interpersonal, interpretive, and presentational. In open-ended and culturally contextualized situations, students will narrate and discuss, question and debate, and reach consensus on a variety of topics which relate to social relationships, education, government, and technology. Students will consider a variety of authentic text sources and watch select film and video clips. Students will continue to build their vocabulary and expand their knowledge of verb tenses and other grammatical topics relevant to the themes discussed in class. Class will be conducted exclusively in Spanish.

Spanish 4H prepares students to take AP Spanish Language and Culture as a senior. Participation in the Honors course is by teacher recommendation.

AP SPANISH LANGUAGE AND CULTURE



10 Credits (#44913), Grade 12

This course is designed for students who have successfully completed Spanish 4 Honors. This course will continue to build proficiency in the three modes of communication: interpersonal, interpretive, and presentational. Students will read and analyze selected literary excerpts and be exposed to authentic resources to increase their knowledge of Spanish language, history and culture. Students will learn to evaluate and synthesize information from a variety of media sources. Students will respond verbally and in writing to culturally-contextualized concepts, themes, and ideas presented in class. AP Spanish Language and Culture is the equivalent of a third year college conversation and composition class. This course prepares students to take the AP Spanish Language and Culture exam at the end of senior year. This course will be conducted exclusively in Spanish.

Participation in this course is by teacher recommendation.

AMERICAN SIGN LANGUAGE 1 (Year long)*

10 credits (#48123) Grades 9, 10, 11

**Pending approval by the NCAA*

This year long course is an introduction to American Sign Language (ASL) and the Deaf Community. Through this course, students will learn basic ASL vocabulary, grammar, sentence structure, and the cultural foundations of ASL. Students will learn the manual alphabet (i.e., fingerspelling), numbers, and basic ASL vocabulary (e.g., vocabulary related to family, occupations, clothing). Students will work on developing both an expressive and receptive understanding of WH questions, Yes/No questions, basic sentence structure, directional verbs, and the use of imperatives. Conversational skill practice will be emphasized throughout the course. Students will also have an opportunity to view and discuss cultural information related to both ASL and the Deaf Community.

Enrollment in this year long course counts towards world language credit.

World Language Electives

INTRODUCTION TO AMERICAN SIGN LANGUAGE (ASL) 1

5 Credits (#48124), Grades 9, 10, 11, 12

In this semester course students will be introduced to the basics of ASL: the hand shapes that comprise the numerical and linguistic system, grammar and syntax, vocabulary, fingerspelling, numbers, visual-manual communication, and Deaf culture. “Deafness”, Deaf culture and history will be introduced with an emphasis on making comparisons and connections to one’s own culture. Students will learn conversational strategies which help maintain a conversation in ASL through interactive activities which allow them to rehearse what they’ve learned. Topics include: introducing oneself, exchanging personal information, talking about where you live, talking about family, and talking about everyday activities. Class participation required and voicing in English limited, so that visual and manual skill development can be maximized.

INTRODUCTION TO AMERICAN SIGN LANGUAGE (ASL) 2

5 Credits (#48224), Grades 9, 10, 11, 12

This semester elective is designed for students who have successfully completed ASL 1. Students will continue to learn and practice signs for introducing themselves to others, asking yes/no questions, and giving directions. Students will continue to learn about Deaf culture and focus on communities and organizations in Massachusetts that support Deaf culture. Class participation required and voicing in English limited, so that visual and manual skill development can be maximized.

In order to enroll in ASL 2, you must have successfully completed ASL 1.

INTERNATIONAL PERSPECTIVES THROUGH FILM

5 Credits (#45024), Grades 11-12

This semester elective is for students who love languages and films, and want to broaden their world view by watching and analyzing films in other languages. Class activities will include discussing and analyzing the film structure and particular scenes, as well as debates and role plays related to topics in the film. Film selections will cover a wide range of genres and topics, such as immigration, religion, the role of women, as well as current events. Films will be shown in their original language with subtitles in English. The course will be conducted primarily in English, with opportunities for students to practice their French or Spanish skills if desired.

In order to enroll, students must have completed their two years of the world language requirement.

CAREER SPANISH

5 credits (#44524) Grades 11-12

This semester elective is for students who have completed their two year world language requirement but are planning a future career where they will use their Spanish skills- such as medicine, the service industry, or law enforcement! Students will research information on the high demand for Spanish speakers in the workforce, practice job searching in their desired field, experience the interview process in Spanish and expand their vocabulary with expressions that are essential to their careers in the future. Students will have an opportunity to practice their skills in a real-world context

In order to enroll, students must have completed their two years of the world language requirement.

FINE AND PERFORMING ARTS

The Fine and Performing Arts Department believes that we are dependent on a visually and aurally literate society that has the ability to cope with multifaceted information and experiences. Students live in a society filled with increasingly complex images and sounds. It is crucial that a Fine Arts education encourage students to take risks, investigate, question, redefine, and invent. Most importantly, the Arts have intrinsic value and are worth learning for their own sake. They possess their own unique body of knowledge, skills, and ways of thinking. There can be no substitute for learning the Arts, and any education that omits the Arts is incomplete. The mission of the Fine Arts Department is to develop life-long participants in, and consumers of, music, visual art, dance, and theater.

“In dance, music, theater, and the visual arts, people express ideas and emotions that they cannot express in language alone. In order to understand the range and depth of the human imagination, one must have knowledge of the arts.” Core Concept, Massachusetts Arts Curriculum Framework, October 1999.

ART

APPRECIATING THE ARTS – CP

5 Credits (#51924) Open to Grades 9-12

This is a hands-on, introductory course for students interested in learning about the history of art through a wide range of activities including group discussions, written assignments, and a vast number of studio art projects. Come and explore why and with what materials artists create their art. Go back in time as we explore early Greece and Rome, and create your own clay vessel and mosaic tile. Visit the Renaissance world of Michelangelo and Leonardo da Vinci, and create your own present-day Mona Lisa! Pour your own plaster for a fresco painting, and explore the architecture of the Romanesque and Gothic buildings of the past with simple stain glass creations. Become an Impressionist artist using strokes of colors to capture the light as Claude Monet did in the late 1800s, and then jump into the modern world of Jackson Pollack and splatter an abstract work of controlled chaos. This course will help you become a life-long learner of the arts while also gaining an appreciation for the materials and art of each time period.

No previous art course or experience is required.

STUDIO 1—FOUNDATION COLOR AND DRAWING – CP

5 Credits (#51224) Open to Grades 9-12

Studio 1 Art Class is designed to introduce basic skills, concepts, and techniques for students to create two-dimensional artwork. An emphasis is on drawing, painting, and color. Studio 1 is the prerequisite for Studio 2. Studio 1 and Studio 2 serve as the prerequisite for Studio 3 Art Class.

No previous art course or experience is required.

Studio 1 and 2 may not be taken during the same semester.

STUDIO 2—FOUNDATION 2D AND 3D – CP

5 Credits (#51524) Open to Grades 9-12

This class is for all students who wish to continue to develop their artistic skills with an emphasis on 2-dimensional and 3-dimensional artwork (sculpture). Studio 1 and Studio 2 serve as the prerequisites for Studio 3 Art Class.

Prerequisite: Studio 1(#51224).

Studio 1 and 2 may not be taken during the same semester.

STUDIO 3 – CP



10 Credits (#51623) Open to Grades 10-12

This class is for all students who wish to continue to develop their artistic skills. Projects will involve extensions of knowledge and skills learned in Studio 1 and Studio 2 as related to drawing, painting, and 3-dimensional art.

Prerequisite: Studio 2(#51524)

ART SCULPTURE STUDIO – CP

5 Credits (#51124) Open to Grades 9-12

This course applies hands-on activities to explore how space, mass, balance, and form combine to create forms and structures. Instruction may include, but is not limited to, sculpture, ceramics, or assemblage. Media may include, but are not limited to, clay, wood, plaster, and paper maché. Cultural and historical connections will be made, along with career and real world applications.

Prerequisites: Studio 1(#51224).

HONORS ART PORTFOLIO 1 – H

10 Credits (#53013) Open to Grades 11-12

This class is for all students who wish to further their artistic skills and those students who may be considering majoring or minoring in art in college. Students will be encouraged to develop and advance their artistic skills with various materials and to create a portfolio of their work in drawing, painting, and sculpture.

Prerequisite: Studio 3(#51623) and teacher recommendation

AP ADVANCED ART PORTFOLIO 2: DRAWING

10 Credits (#53513) Open to Grades 11-12

This course is designed for the serious study of art. It is strongly recommended for all students attending art school or pursuing an art-related major or minor in college (fine arts, illustration, graphic design, communications, interior design, architecture, computer graphics, fashion design, etc.). The first semester of this course is dedicated to the preparation, development and presentation of each student's individual portfolio as defined by the College Board and various art schools, colleges and universities. The second semester is designed to encourage the student to initiate, develop and carry out an in-depth independent project focusing on a particular area of concentration (a series of pieces developed out of a cohesive area of study, based on a coherent plan, underlying idea that investigates an individual interest, growth and discovery.) Nightly homework will be mandatory. Summer work is also mandatory.

Prerequisite: Studio 3(#51623), and/OR Honors Art Portfolio(#53013), teacher recommendation, and a 5-piece art portfolio from previous art courses submitted to the AP Art teacher in March prior to enrolling in the class.

AP ADVANCED ART PORTFOLIO 2: 2D DESIGN

10 Credits (#53413) Open to Grades 11-12

This course is designed for the serious study of art. It is strongly recommended for all students attending art school or pursuing an art-related major or minor in college (fine arts, illustration, graphic design, communications, interior design, architecture, computer graphics, fashion design, etc.). The first semester of this course is dedicated to the preparation, development and presentation of each student's individual portfolio as defined by the College Board and various art schools, colleges and universities. The second semester is designed to encourage the student to initiate, develop and carry out an in-depth independent project focusing on a particular area of concentration (a series of pieces developed out of a cohesive area of study, based on a coherent plan, underlying idea that investigates an individual interest, growth and discovery.) Nightly homework will be mandatory. Summer work is also mandatory.

Prerequisite: Studio 3(#51623), and/OR Honors Art Portfolio(#53013), teacher recommendation, and a 5-piece art portfolio from previous art courses submitted to the AP Art teacher in March prior to enrolling in the class.

INTRODUCTION TO DIGITAL PHOTOGRAPHY – CP

5 Credits (#53824) Open to Grades 9-12 This course will focus on incorporating the principles and elements of art into digital photography. Students will learn how digital cameras work, the history of photographic technologies and artists, as well as Photoshop editing skills. Students will be required to complete weekly homework assignments and will create a portfolio of their work by the end of the course. It is strongly recommended that students use their own digital camera for this course. *Prerequisites: None*



DIGITAL PHOTOGRAPHY II – CP

5 Credits (#53924) Open to Grades 9-12 with Prerequisite

This class will enhance understanding of the elements of art, principles of design and compositional strategies and continue to build a foundation for creating successful original photos. Assignments will

require students to use a manual camera to solve specific visual and artistic challenges while reinforcing technical skills and encouraging individual expression. Students will have the creative freedom to explore and build upon their personal style through the photographing and editing processes.

Prerequisite: Intro to Digital Photography(#53824)



GRAPHIC DESIGN I – CP

5 Credits (#54224) Open to Grades 9-12 with Prerequisite

This class will give students a basic understanding and application of Adobe Illustrator and Adobe Photoshop programs. Using the elements of art and principles of design, students will learn color theory, typography, branding and layout while learning to solve creative problems. Students will learn the design skills of researching, sketching and idea development before using the computer as their final design tool.

Prerequisite: Studio Art I(#51224) or Intro to Digital Photography(#53824)

GRAPHIC DESIGN II – CP

5 Credits (#54424) Open to Grades 10-12 with Prerequisite.

This class will offer students more experience in creative problem solving and the practical implementation of those solutions across multiple areas of graphic communications. The course will build student knowledge of the Adobe design programs through real-world assignments that simulate experiences of those in the design industry.

Prerequisite: Graphic Design I(#54224)

ANIMATION DESIGN (Animation I) – CP

5 Credits (#54324) Open to Grades 9-12 with Prerequisite

In this class, students will learn the basic principles of animation through exposure to both 2D and 3D design programs and processes. Throughout the class, we will discuss the history and evolution of animation and explore varying techniques and approaches to this exciting multimedia course.

Prerequisite: Studio Art I(#51224) or Introduction to Digital Photography(#53824)

ANIMATION II – CP

5 Credits (#54524) Open to Grades 10-12 with Prerequisite.

This class will expand upon the skills and knowledge learned in Animation I and will offer students the opportunity to do more independent work to further develop a personal design style.=

Prerequisite: Animation Design (Animation I)(#54324)

MUSIC

The Music Department at Chelmsford High School provides students with situations in which each individual can develop self-expression and aesthetic sensitivity. Course selections vary from large group performance ensembles to more individualized, non-performance courses.

MUSIC THEORY 1 – CP

10 Credits (#54623) Open to Grades 9-12

In Music Theory 1 the fundamentals of note reading, chord structure, chord progressions, scales, key and key signatures are taught. Beginning ear training is introduced. This course is recommended for students seeking basic, fundamental music enrichment. Limited work is assigned outside of class.

No prerequisites.

AP MUSIC THEORY

10 Credits (#56513) Open to Grades 10-12

AP Music Theory is designed for students who require theory for career study as well as those who desire it for enrichment. Emphasis is placed on music of Western tonality from 1600-1900. Geared toward preparation for the AP Music Theory exam, the course includes advanced ear training, melodic and rhythmic dictation, sight singing, figured bass analysis, extensive four-part harmonic composition, and basic formal analysis. Significant work is required outside of class.

Prerequisite: Successful completion of Music Theory I(#54623) with teacher recommendation OR passing the AP Music Theory entrance exam (See Department Coordinator).

HONORS TRACK PERFORMANCE ENSEMBLES:

BAND - H (#57013) – Open to grade 9-12

TREBLE CHOIR - H (#57513) – Open to treble voices grades 9-12

CONCERT CHOIR - H (#57413) – Open to tenor/bass voices grade 9-12/treble voices grade 11-12

ORCHESTRA - H (#58013) Open to grade 10-12

GRADE 9 CHAMBER ORCHESTRA - H (#58113) Open to grade 9

See individual course descriptions below

Band (Woodwind/Brass and Percussion), Treble Choir, Concert Choir, Orchestra, and Chamber Orchestra may be taken as a Level 1 (Honors) course with the approval of the instructor and the Fine Arts Coordinator if the student agrees to complete the following requirements.

Student must:

1. Meet grade level performance expectations as indicated by the ensemble director.
2. Perform for a Faculty Jury once a semester during finals.
3. Maintain an Honors Portfolio.
4. Prepare and audition for the Junior (Grade 9) or Senior (Grades 9-12) District Ensembles.
5. Honors students are strongly encouraged to participate in other performance music activities outside of school.
6. While not required, private lessons on your voice or instrument are HIGHLY recommended.
7. Students must earn a grade of 90 or higher in their ensemble to enter or continue in Honors Level.

Only scheduled students in their performance ensemble may audition for the Northeastern District Festival and All-State, with the recommendation of their Director.

BAND – CP

10 Credits (#57023) Open to Grades 9-12

The Band program is open to all students who play a wind instrument. Students enrolled in this course will participate in Marching Band and Symphonic Band. Students are also given the opportunity to audition for Jazz Ensemble and participate in other extracurricular musical activities such as Hoop Band, Woodwind & Brass Choir or various other chamber ensembles. Attendance at all performances is a course requirement. Only scheduled Band students may audition for the Northeast District Festival and All State Festival with the recommendation of the director. There is also an honors option for this course (see description above).

TREBLE CHOIR – CP

10 Credits (#57523) Open to treble voices in grades 9-10

The Treble Choir is a performing vocal ensemble open to sopranos and altos in grades 9 through 12. Treble

Choir is an inclusive class with no prerequisite or audition required. Students from all levels of vocal experience are encouraged to sign up for this fun class! The Treble Choir performs three to four times per year at concerts showcasing a variety of classical and contemporary music. Attendance at these concerts is a course requirement. This course satisfies the prerequisite for membership in select after-school ensembles and eligibility to audition for Northeastern Senior and Junior District festivals. Students desiring a more challenging choral experience are encouraged to sign up for the optional Honors track (TREBLE CHOIR H, # 57513).

Prerequisite: None

CONCERT CHOIR – CP

10 Credits (#57423) Open to bass/tenor voices Grades 9-12, soprano/alto voices Grades 11-12

The Concert Choir is a performing vocal ensemble open to tenors and basses in grades 9 through 12 as well as sopranos and altos in grades 11 and 12. Concert Choir is an inclusive class with no prerequisite or audition required. Students from all levels of vocal experience are encouraged to sign up for this fun class! The Concert Choir performs three to four times per year at concerts showcasing a variety of classical and contemporary music. Attendance at these concerts is a course requirement. This course satisfies the prerequisite for membership in select after-school ensembles and eligibility to audition for Northeastern Senior and Junior District festivals. Students desiring a more challenging choral experience are encouraged to sign up for the optional Honors track (CONCERT CHOIR H, #57413).

Prerequisite: None

GRADE 9 CHAMBER ORCHESTRA – CP

10 Credits (#58123) Open to Grade 9

Grade 9 Chamber Orchestra is a performing ensemble in which string instrumentalists advance their musical skills. Any grade 9 student who wishes to be in the orchestra must be scheduled for this class. This ensemble will focus on building more advanced performance techniques. Attendance at all concerts is a requirement. This ensemble performs string and symphonic literature in a variety of musical styles from the Baroque to the present. **Instruments include violin, viola, cello, and bass.** Only scheduled string students may audition for the Northeastern District Festival and All-State, with the recommendation of the orchestra director. There is also an honors option for this course (see description above).

Prerequisite: None

ORCHESTRA – CP

10 Credits (#58023) Open to Grades 10-12

This performance ensemble is for students who wish to perform advanced orchestral repertoire. It is open to any student who has completed one year of orchestra at the high school level. Attendance at all concerts is a requirement. Instruments include violin, viola, cello, and bass. Only scheduled string students may audition for the Northeastern District Festival and All-State, with the recommendation of the Orchestra Director. There is also an honors option for this course (see description, above).

Prerequisite: One year of Grade 9 Chamber Orchestra(#58123)

EXPLORING POPULAR MUSIC – CP

5 Credits (#58224) Open to Grades 9-12

This course is open to ALL students, musicians and non-musicians alike! It requires listening, sharing, and discussion. What are the elements of music? What makes music important and relevant in our lives? How has American popular music changed over the years? How do musicians earn a living in today's economy? How has music been used to inspire social and political change? These and other topics will be addressed, and examples of many styles of music will be played, listened to, and discussed.

Prerequisite: None

MUSIC IN A DIGITAL WORLD– CP

5 Credits (#58324) Open to Grades 9-12

This course will focus on incorporating the principles and elements of music with current technology programs such as Garage Band. Students will explore technology to create, edit, and notate music.

Prerequisite: None

GUITAR 1 – CP

5 Credits (#59024) Open to Grades 9-12

This introductory guitar course is for the beginning guitarist with little or no experience. It is also for guitarists who need to improve their note reading skills and theory. The course will cover 14 basic chords with application to folk and modern pop styles, guitar structure, tuning, elementary rhythms applied to strumming, blues form, first position melody playing, trios, and accidentals. Students may bring their own guitars to class, or use the guitars provided by the school.

Prerequisite: None

ADVANCED GUITAR – CP

5 Credits (#59124) Open to Grades 9-12 with Prerequisite

This course is a continuation of Guitar 1. Initially, this course will be a review of Guitar One's curriculum – reviewing chords and note reading. It will then pick up to major scale construction and playing, key signatures, development of the right hand position with application to scales and accompaniment, arpeggio playing, tab, natural notes up the fretboard, transposition, trios and ensemble playing in many styles: blues, country, classic and rock.

Prerequisite: Guitar 1(#59024)

THEATRE

INTRO TO ACTING AND PLAY PRODUCTION – CP



5 Credits (#59724) Open to Grades 9-12

This course will be designed to meet the needs of the beginning actor or student who is also interested in technical elements of theater. Course work will include aspects of both acting and play production. The chief area of concentration will be in the basic tools an actor needs (projection, diction, eye contact, theater games). Students will also work on scenes for the beginning actor. In addition, students will learn the basics of stage makeup and design, hair, set design, lighting design and sound design. This course is extremely hands-on, and trips to the CHS Performing Arts Center will be integral to the study.

Prerequisite: None.

ADVANCED ACTING – CP

10 Credits (#59823) Open to grades 10-12

Advanced Acting offers the student who has already completed Intro to Acting the opportunity to explore much more. Plays will be read, playwrights will be studied. Students will perform in a minimum of eight scenes from various plays. Students will begin to explore role building from the inside out: methods of acting will be taught and explored. These methods include the teachings of Stanislavsky, Meisner, Lee Strasberg, Robert Cohen, Uta Hagen and others. Students will write their own scenes, helping them further

understand the playwright and character development.

Prerequisite: Intro to Acting(#59724)



IMPROVISATIONAL THEATER – CP

5 Credits (#59824) Open to Grades 9-12

Students will learn and explore some of the core fundamentals and principles of improvisational acting through theater games and exercises. Student will explore movement as an actor using Anne Bogart's VIEWPOINTS. Commedia Del Arte, Italy's oldest Improvisational style of theater will be explored. In addition, social issues of today will be examined through improvisational scenes created by the class. Basic tenets of acting will be examined including: active listening, character, status, making your scene partner look good and "yes, and". Improvisation as it is used today (audience participation theater, auditioning for film and television, playwriting, improv for social consciousness) will be part of this class.

In addition, an introduction to Shadow Puppetry as a unit will help students not only physically make and perform shadow puppets, but use improv for scenes to make their own creations come to life!

Each class will begin with an improv game/warm up and will close with one!

Prerequisite: None.

DIGITAL FILMMAKING: WRITING, ACTING IN, AND PRODUCING SHORT OR FULL LENGTH FEATURE FILMS - CP

5 Credits (#59624) Open to Grades 9-12

This new course offering is designed for all students interested in film and video production. From concept to storyboard to production elements and cinematography, this course is a true hands-on experience. The course will also examine the historical roots of film and study the films that have had a major impact on the industry. Contributions of famous directors (Charlie Chaplin, Buster Keaton, Orsen Welles, D. W. Griffith, Alfred Hitchcock, Stanley Kubrick, Stephen Spielberg, Spike Lee, Christopher Nolan) will be viewed, analyzed and discussed. Students will learn elements of production including writing original scripts, creating a storyboard, creating a production staff, choosing locations, casting actors, the role of the casting director, and filming their original works. The course will also present guest speakers from the film industry.

Prerequisite: None

WELLNESS (PE/HEALTH)

PHYSICAL EDUCATION

Grade 9/10 ELECTIVES

YOGA AND FITNESS - CP

5 Credits (#76404)

This is a freshman elective course that will integrate the principles of yoga, cardio, and strength training. The course is designed to build strength and endurance, improve balance, increase flexibility, improve cardio health and meld movement and breath. This course will work on building self confidence, communication skills, team cooperation while working on adventure activities and the low ropes course. In this course you will have an opportunity to explore your own personal fitness levels and goals while working towards achieving these goals in and outside of school.

LIFETIME SPORTS - CP

5 Credits (#77124)

This is a freshman elective class that will focus on sports/activities that use a net. This course will be centered on the sports of badminton, pickleball, triangleball, frisbee golf, volleyball and tennis. A great deal of emphasis is placed upon demonstrating good sportsmanship and character qualities, practicing appropriate behaviors and developing the skills necessary to participate in these sports. This class will also include an introduction to personal fitness with a focus on learning about the basics of strength and conditioning.

Grade 10 REQUIRED

Please choose ONE of the following courses to fulfill the Grade 10 Physical Education requirement.

EXERCISE AND CONDITIONING 10 - CP

5 Credits (#76354)

This course is designed to give students the opportunity to learn the components of fitness concepts and conditioning techniques used for obtaining optimal physical fitness. Students will learn how to safely use various exercise equipment, the basic fundamentals of strength training, aerobic training, and overall fundamentals of fitness training and conditioning in the Fitness Center and Gymnasium. Principles of strength training, elements of cardiovascular health, basic anatomy and physiology, and the elements of a personal fitness plan are topics covered during the course. Students will be empowered to make wise choices, meet challenges, and develop positive behaviors in fitness, wellness, and movement activity for a lifetime. Polar heart rate monitors will be used in this course in order to assess heart rate. Students will also have the opportunity to obtain a two-year American Heart Association's HeartSaver First Aid CPR AED Provider certification.

TEAM GAMES 10 - CP

5 Credits (#77154)

This is an elective option for freshman who enjoy participating in team sports (i.e., basketball, capture the flag, soccer, ultimate Frisbee, floor hockey, etc.). In competitive team games the curriculum is designed to help students develop positive self-esteem with regard to their physical skills and knowledge of the rules and strategies of the games so that graduates will choose to remain physically active beyond graduation. A great

deal of emphasis is placed upon demonstrating good sportsmanship and character qualities, practicing appropriate behaviors for different physical activities, and developing the skills necessary to participate in both competitive and different high and low ropes course challenges. Students will also have the opportunity to obtain a two-year American Heart Association's HeartSaver First Aid CPR AED Provider certification.

WELLNESS ACTIVITIES 10 - CP

5 Credits (#77924)

This class is designed to improve muscular strength, endurance, flexibility, posture, balance and relaxation techniques. Students will gain an in depth understanding of yoga postures, benefits associated with yoga, along with the benefits, organization, implementation and evaluation of a balanced aerobic fitness program utilizing walking as the primary activity. This course will also include cooperative games, elementary games and work on building self confidence, communication skills, team cooperation while working on adventure activities and the low ropes course. Students will also have the opportunity to obtain a two-year American Heart Association's HeartSaver First Aid CPR AED Provider certification.

Grade 11 REQUIRED

Please choose ONE of the following courses to fulfill the Grade 11 Physical Education requirement.

TEAM GAMES 11 - CP

5 Credits (#77824)

This class will provide students with opportunities to enjoy participating in traditional team sports and games (i.e., floor hockey, basketball, volleyball, team handball, etc.) as well as some non-traditional activities like frisbee golf, low ropes course, high ropes course, etc. In this class, the curriculum is designed to advance students positive self-esteem with regard to their physical skills and knowledge of the rules/strategies of games so that they will choose to remain physically active beyond graduation. A great deal of emphasis is placed upon demonstrating good sportsmanship and character qualities, practicing appropriate behaviors and developing the skills necessary to participate in game play as well as the high and low ropes courses. *Prerequisite: Passing grade in Sophomore Physical Education Class*

WELLNESS ACTIVITIES 11 - CP

5 Credits (# 77624)

This class is designed to improve muscular strength, endurance, flexibility, balance and relaxation techniques. Students will gain a more in depth understanding of yoga postures, benefits associated with yoga, along with the benefits, organization, implementation and evaluation of a balanced aerobic fitness program utilizing fitness walking activities as the primary activity. This course will also include the low ropes adventure course, cooperative games and elementary games which will work on building self-confidence, self-esteem, problem solving skills and communication skills.

Prerequisite: Passing grade in Sophomore Physical Education Class

STRENGTH AND CONDITIONING 11 - CP

5 Credits (#76304)

This course is designed to give students take a deeper look into the components of fitness concepts and conditioning techniques used for obtaining optimal physical fitness. Students will learn advanced fundamentals of strength training, aerobic training, and overall fundamentals of fitness training and conditioning in the Fitness Center and Gymnasium. Principles of strength training, elements of cardiovascular health, anatomy and physiology, and the elements of a personal fitness plan will be worked

on in this course. Students will be empowered to make healthy choices, meet challenges, and develop positive behaviors in fitness, wellness, and movement activity for a lifetime. Polar heart rate monitors will be used in this course in order to assess their own heart rates through movement.

Prerequisite: Passing grade in Sophomore Physical Education Class

Grade 11/12 ELECTIVES

ADVANCED PHYSICAL EDUCATION (PE) - CP

5 Credits (#76204)

This is an elective option for juniors and seniors who enjoy participating in team sports (i.e., basketball, capture the flag, soccer, ultimate Frisbee, mat ball, floor hockey, etc.). In Competitive Team Games the curriculum is designed to help students develop positive self-esteem with regard to their physical skills and knowledge of the rules and strategies of the games so that graduates will choose to remain physically active beyond graduation. A great deal of emphasis is placed upon demonstrating good sportsmanship and character qualities, and developing the skills necessary to participate in different team sports, lifetime sports, as well as the high and low ropes courses.

TECHNIQUES AND PRINCIPLES IN ATHLETIC TRAINING - CP

5 Credits (#77524)

The purpose of this class is to prepare students in skills used in the fields of Sports Medicine/Athletic Training. The course includes the history of the athletic training profession, ethics, proper recording of injuries, taping, and principles of athletic training. The content includes, but is not limited to, roles and responsibilities of team members, emergency and non-emergency procedures, anatomy and physiology, injury evaluation, equipment and modalities of rehabilitation, injury and disease prevention, and protective equipment.

UNIFIED PHYSICAL EDUCATION - CP

5 Credits (#77724)

Unified physical education is an elective course designed for students interested in working with students who have special needs. Throughout the course, students will work one-on-one with students who have cognitive and physical disabilities in an active setting. The physical education curriculum will be taught by the physical education instructor, which will be assisted by students working one-on-one with these students as a support to help guide them through the following lifetime activities: cooperative games, locomotor skills and patterns, striking, throwing, short and long handed implements, and fitness. Students in this course will learn how to provide a positive movement learning experience to students with special needs; increase their knowledge on different disabilities; learn strategies to support students in the development of movement skills in the areas of gross motor patterns, manipulative skills, striking skills, and fitness; and help foster a positive learning and social environment for students with special needs.

HEALTH

Grade 9 Required Course

LIFE MANAGEMENT SKILLS - CP

5 Credits (#73024)

This Health Education course is required of all freshmen. This course is designed to assist students in making positive choices related to physical, mental/emotional, and social health. Topics of this exciting course include: health in the United States (past, present, and future concerns), mental health, mental health disorders, dealing with stress in a positive way, common disease prevention, time management strategies, addictive behaviors, human sexuality and healthy relationship responsibilities, and positive plans for living healthy in the future. Consistent points of interest include self-concept, respect, responsibility, positive communication and actions, and safety. This course will help build the life skills necessary to make wise choices related to personal health and the health of others.

A positive parent permission slip will be required for the Human Sexuality portion of the course.

Grade 11/12 Required*

Jr/Sr. Required Course*

Please choose 1 of the two following health and wellness courses listed below to fulfill the graduation requirement. A second course can still be taken as elective courses outside of this graduation requirement.

REALITY CHECK 2.0 - CP

5 Credits (#75024)

Students will become empowered with the tools necessary to make healthy lifestyle choices. They will find the answers to: How do I turn gaining knowledge about basic health practices into the power to control my future? How do I gain balance in my lifetime managed days vs. over stressed? How do I use available resources to create a personal plan to perform at my optimum level?

This course will focus on the issues and challenges that young adults face today. Students will analyze their personal health choices and risks based on their decision making practices. They will find answers to: How do I communicate effectively? How do I recognize and avoid addictive behaviors and substances? What do I need to understand in order to build healthy relationships with both my peers and adults? How do I utilize factual information regarding basic human sexuality and responsible decision making to make healthy and safe choices?

Prerequisite: Passing grade in Life Management Skills Class

THE POWER OF CHOICE - CP

5 Credits (#66524)

Do you wonder how to “Fuel the Teen Machine”? Students interested in becoming empowered with the tools necessary to make healthy lifestyle decisions will benefit from this course. You will find the answers to: How do you gain nutritional balance to maintain the energy for family, school, friends, and...life? How do you detect myth from fact in choosing the components of your diet? How do you use current resources to create your personal plan to perform at your optimal level? The POWER OF CHOICE is yours!

Prerequisite: Passing grade in Life Management Skills Class

FAMILY AND CONSUMER SCIENCES

All Family and Consumer Sciences Courses are aligned with the Massachusetts Health Curriculum Frameworks.

Family and Consumer Sciences courses prepare students for multiple roles in the home, work and the community as well as offer training for many diverse professions including day-care worker, babysitter, and with further education, a preschool, elementary, middle school, or high school teacher. By coordinating classroom theory with hands-on experience, students develop and enhance their creative skills, and their problem-solving skills necessary for successful living now and in the future. All Family and Consumer Science courses are aligned with the Massachusetts Health Curriculum Frameworks. Each of these courses is considered a practical art.

Grades 9, 10, 11, & 12

EXPLORING EARLY CHILDHOOD 1—CP

5 Credits (#67024)

This semester course combines classroom instruction with hands-on participation working with children in the Lion's Den Preschool (the in-house preschool) and with school-age children in the Extended Day Program at Harrington School in the morning. Theory of Child Development is studied throughout the course, including the physical, social, emotional, and cognitive development of children from age three to twelve. With knowledge gained in the classroom, students have the opportunity to create and develop developmentally appropriate activities for the young children they will be working with. Students also have the opportunity to explore careers in this field. Students who are 18 years old will be asked to fill out a C.O.R.I. form and provide photo identification before they begin working with the young children. This course is considered a practical art.

Grades 10, 11, & 12

EXPLORING EARLY CHILDHOOD 2—CP

5 Credits (#67424)

This semester course is a sequel to Exploring Early Childhood 1. Students will continue to work with children in the Lion's Den Preschool (the in-house preschool) and with school-age children in the Extended Day Program at Harrington School in the morning. Again, theory of Child Development is studied throughout the course, including the physical, social, emotional, and cognitive development of children from age three to twelve. However, pregnancy, prenatal development, and the birth process are discussed at great length. Students will have the opportunity to simulate parenthood in this course. Students will also have the opportunity to plan an entire day in the Lion's Den Preschool by creating several developmentally appropriate activities for the preschool children. Students who are 18 years old will be asked to fill out a C.O.R.I. form and provide photo identification before they begin working with the young children. This course is considered a practical art.

Prerequisite: Exploring Early Childhood 1. Successful completion of this course and portfolio preparation will allow students to apply for college credit at Middlesex Community College.

Grades 11, & 12



EXPLORING EARLY CHILDHOOD 3/DIRECTED STUDY — CP

10 Credits (#67623)

This year-long advanced course is a continuation of Exploring Early Childhood 1 and 2. This course gives high school students a more comprehensive understanding of the day-to-day operations of a preschool, kindergarten, elementary or middle school classroom. Throughout the course, students work as teacher assistants with a mentor teacher within the school system. With the help of the mentoring teacher, each student will be expected to teach at least six lessons to the young students they are working with. Students will also do independent research on early childhood theorists. The final assessment of the course is the completion of a portfolio. Students who are 18 years old will be asked to fill out a C.O.R.I. form and provide photo identification before they begin working with young children. This course is designed for students pursuing a career working with children. This course is considered a practical art.

Prerequisite: Exploring Early Childhood 2 and Teacher Recommendation.

The Business department's faculty seek to provide all students with current conceptual and technology skills necessary to meet their future career goals. These Accounting, Management, Marketing, Business Law, Retail Marketing Management, Design and Production courses develop valuable skills needed in every business. Creativity, critical thinking, problem solving, communication, and collaboration are skills central to our business courses and sought by business leaders when hiring. The Business curriculum combines the key elements of academic and 21st Century themes, while exposing students to today's global economic concepts. We seek to utilize today's technology to explore the vast world of business, develop expertise, and to provide a foundation for further collegiate study. We also offer membership in Distributive Education Club of America (DECA.org) and a Retail Internship. In addition several courses offer students the opportunity to earn College Credit at a small cost while studying here at CHS. Look for the MCC logo.

BUSINESS LAW 1 - CP

5 Credits (#61224) Open to Grades 10-12

This course provides an overview of the legal, regulatory and ethical environment in which business decisions are made and how they affect us as citizens. Students are exposed to a brief history of our legal system and a variety of criminal and civil concepts, then focuses on contracts and employment law. Contract law establishes the ground rules that each of us use to define our private rights and duties. In addition, students will gain an understanding of the rights and responsibilities they have and the protections given them by our legal system in the workplace. This course will develop the ability of each student to read and reason critically. Students in this Introduction to Business Law course are also eligible for DECA.

Prerequisites: None



BUSINESS & CAREER PATHWAYS—CP

5 Credits (#62024) Open to Grades 9-12

Where do you see yourself in five years? This is a common interview question and most students won't have an answer. In addition the American Economy is changing at a rapid pace and we're educating students for careers that aren't even invented yet. No matter what path our students choose they will require business skills and knowledge to survive. In this course we will investigate various industries and careers within those industries through research, speakers and field trips. We will gain a general understanding of the major disciplines of business in the 21st century, such as US and Global Business Environments, Entrepreneurship, and Personal and Business Finance, through the use of hands-on, enjoyable, and challenging activities. Lastly, students will develop skills essential to success in any career such as time management, communication, leadership, social media etiquette, public speaking and accountability. Students in this course are also eligible for DECA.

Prerequisites: None



ACCOUNTING 1— CP

5 Credits (#62424) Open to Grades 9-12

Accounting 1—CP is a one semester course open to all students. Students will explore the fundamental concepts of Financial Accounting. While traditional pencil and paper methods are not abandoned, high emphasis is placed on computerized Accounting practices. Students will complete a variety of short and long term projects using *Aplia Online Working Papers* and customized Microsoft Excel templates. Students will put their learning to the test using *Knowledge Matters: Virtual Business: Accounting* simulations.

Students will also get a taste of authentic Accounting in action as they observe and assist in the bookkeeping activities of DECA's Lions Locker School Store and Custom Apparel business. Accounting Students are eligible for DECA team and competition.

Prerequisites: None



DESIGN AND PRODUCTION - CP

5 Credits (#62124) Open to Grades 9-12 Do you have a creative side? Would you like to see your ideas be transformed into reality? Do you want to make apparel, custom mugs, phone cases, signs and more? This course is ideal for students interested in utilizing their creative and design skills to oversee the design process from the conceptual stage through production. Students will also be heavily involved in the custom product operations of the Lions Locker school store. Students will have the opportunity to use design software, including Adobe Photoshop, Adobe Illustrator, and other creative software to take their ideas from concept to product. Students will create products incorporating their designs using state of the art heat presses, sublimation printing, eco solvent print/cut, and vinyl cutting equipment. The creative outlets for students in the class are endless. All levels of experience with design and design software are welcome. Students in this course are eligible for DECA team and competition. *Prerequisites: None*

MONEYSMART - CP

5 Credits (#61424) Open to Grades 9-12

In today's unstable economic and financial climate, it is essential that students become financially literate citizens who will understand the fundamental concepts of financial security today and in the future. They will develop knowledge, skills, and confidence to begin assuming responsibility for their financial future. Students will develop critical thinking skills with respect to financial planning concepts as they relate to their own individual situations. Topics will include:

- Education and Employment
- Financing a car loan
- College Financing
- Credit Cards and Debit Cards
- Budgeting
- Saving and Investing Basics
- Impacts of Credit Use
- Consumer Decision Making
- Insurance

Students will take part in a variety of realistic experiences throughout the semester including the H&R Block Virtual Business Personal Finance Simulation as well as a customized Investopedia stock market game. Banking professionals will engage the students in several interactive presentations. Financial Planning students are eligible for DECA competition.

Prerequisites: None



MARKETING —CP

5 Credits (#65024) Open to Grades 9-12

A college oriented course designed to cover key topics such as: the role of marketing in our economy; consumer behavior; market planning; the development of the marketing mix; market segmentation; pricing strategies; selling and advertising. Discussions, case studies, oral presentations, and writing assignments will be a part of the required coursework. Computer simulation programs will be used to enhance student understanding in multiple areas. Students are eligible for and are encouraged to participate in DECA and

compete with other students in specific areas of study they are interested in: concert/event promotion, fashion buying, displaying and showcasing. Students will explore the determination of target markets, the psychological influences that cause people to buy, and the appropriate advertising methods used to reach the appropriate audiences. Students will be encouraged to participate in DECA competitions and events where they will have a chance to successfully apply their knowledge in a variety of academic and hands-on settings.

Prerequisites: None



MANAGEMENT—CP

5 Credits (#65424) Open to Grades 9-12

This semester course introduces basic functions and how organizations/businesses are owned, managed, and controlled. The managerial roles of planning, leading, organizing and controlling provide the framework that course materials are built around. Areas of concentration include legal and ethical considerations in management, decision-making and communication skill development, and leadership principles. Computer simulations are utilized to enhance student understanding. Students are eligible and encouraged to participate in DECA competitions and events where they will have a chance to successfully apply their knowledge in a variety of academic and hands-on settings. *Prerequisites: None*

GOOGLE - ADVANCED APPS - CP

5 Credits (#62324) Open to Grades 9-12

Success in the modern workplace requires the ability to communicate effectively and efficiently. This communication can take many forms, written words, charts, and/or spreadsheets. This class will allow you to become proficient in using these Apps individually and collaboratively to become workplace ready. Tools used will include:

- Docs
- Sheets
- Slides
- Drive
- Calendar
- Meet
- Sites
- Groups

Students will have the option of certification testing at the end of this course. This course is fully compatible with the Chromebooks students have been receiving.

Prerequisite: NONE

RETAIL MARKETING MANAGEMENT - CP

5 Credits (#64224) Open to Grades 9-12

This CP level course is ideal for students interested in exploring how marketing influences the world of retailing. Students will learn new skills in marketing, merchandising, inventory and cash controls, understanding buyer behavior, product design, and sales. Students will coordinate displays and promotions in the School Store while monitoring inventory levels and profit margins. Students will also analyze consumer behavior in stores analyzing the differences and benefit in a strong store design. Students will also be heavily involved in the creation of custom apparel operations of the School store. Students will learn the

elements of apparel sales and design from customer contact to order completion, including working with state of the art heat press and vinyl cutting equipment. The creative outlets for students in the class are endless. DECA eligible course.

Prerequisites: None

RETAIL INTERNSHIP - CP

5 Credits (#64324) Open to Grades 9-12

Students will work in the CHS DECA School Store under the supervision of CHS business department faculty. Students learn the fundamentals of inventory management, customer relations, retail merchandising, and basic bookkeeping. Students will also be involved in the production of custom apparel products using state of the art heat press and vinyl cutting equipment.

Prerequisites: Successful completion of 1 Business Education Dept. Class and Instructor Approval

Senior Capstone Experience

Starting in the Spring of 2020, Seniors at Chelmsford High School will be granted the opportunity to embark on a Senior Capstone Experience. Seniors are encouraged to participate in the 4th quarter experience in one of the following ways:

- **Internships:** Unpaid work experience for students that is structured to help demonstrate practical applications for academic learning. These experiences help students focus on career goals, motivate them in school, and may even lead to future employment.
- **Community Service:** Students volunteer their time in hospitals, nursing homes, or other community agencies. Previous sites include volunteering the Cameron Senior Center, Lowell Humane Society or Habitat for Humanity. At least half of the student's weekly community service hours must be spent in direct contact with the organization for which they are volunteering.
- **The Project:** (Only for students enrolled in at least two AP courses) In-depth research on an approved topic of choice. With the help of a faculty advisor and site supervisor in the community, the student plans and carries out an in-depth study of a particular topic, such as scientific research or developing a computer program. Research projects can take one of the two following forms:
 - **Research Paper:** Must be 15-20 pages in length (depending on number of AP courses). Paper must address a specific, focused essential question. The paper must cite a minimum of 10 sources; at least half must be print sources (ex: journal article or book). Paper must contain in-text citations as appropriate and follow MLA or APA format.
 - **Research Projects:** Students engage in extensive research on a detailed topic that is then translated into a tangible final product. Past examples have included: a portable UV sanitizer, iPhone app development, and kinetic sculpture.

Please speak to your counselor about this opportunity!

GUIDANCE

Questions about course selections and/or levels for students in the <i>Class of 2024</i> should be directed to the counselors at the student's middle school.			
McCarthy Middle School	Ms. Moya Charig	978-251-5122	charigm@chelmsford.k12.ma.us
Parker Middle School	Ms. Mellissa MacIsaac	978-251-5133	macisaacm@chelmsford.k12.ma.us

Questions about course selections and/or levels for students in the <i>Classes of 2021, 2022, and 2023</i> should be directed to the student's counselor at the high school. Counselor assignments are according to the student's last name and house assignment at Chelmsford High School (978) 251-5111:			
Emerson House	A through K	Ms. Mariclare O'Neal	Ext. 5522
Emerson House	L through Z	Ms. Kara Kelley	Ext. 5519
Hawthorne House	A through K	Ms. Tammy Leary	Ext. 5585
Hawthorne House	L through Z	Ms. Christine Lima	Ext. 5603
Whittier House	A through K	Ms. Jennifer Orsini	Ext. 5547
Whittier House	L through Z	Ms. Jamie Hill	Ext. 5560

DEPARTMENT COORDINATORS

Curriculum-related questions should be directed to the corresponding Department Coordinator (978) 251-5111 at the following extensions:			
English	Abbey Dick	Ext. 5667	dicka@chelmsford.k12.ma.us
Fine & Performing Arts	Christina Whittlesey	Ext. 5602	whittleseyc@chelmsford.k12.ma.us
Guidance	Laraine Wilson	Ext. 5601	wilsonl@chelmsford.k12.ma.us
Mathematics	Matthew Beyranevand	Ext. 5552	beyranevandm@chelmsford.k12.ma.us
Physical Education, Family and Consumer Science, Health	Kathryn Simes	Ext. 5553	simesk@chelmsford.k12.ma.us
Practical Arts: Technology Business & Media	Marilyn Sweeney	Ext. 5639	sweeneym@chelmsford.k12.ma.us
Reading and ESL	Kelly Rogers	Ext. 5546	rogersk@chelmsford.k12.ma.us
Science and Technology/Engineering	Jonathan Morris	Ext. 5659	morrisj@chelmsford.k12.ma.us
Social Studies	Stephanie Quinn	Ext. 5521	quinnns@chelmsford.k12.ma.us
Special Education	Shawna Mottram	Ext. 5584	mottrams@chelmsford.k12.ma.us
World Language	Jessica Nollet	Ext. 5686	nolletj@chelmsford.k12.ma.us

PROGRAM OF STUDIES ~ 2020 – 2021

Practical Arts Courses



COMPUTER PROGRAMMING COURSES

Programming 1– CP	10 Credits (Dual Enrollment)	#17723	Grades 10, 11, + 12	<i>Prerequisite: None</i>
PLTW AP Computer Science Principles	10 Credits	#17524	Grades 10, 11, 12	<i>Prerequisite: None</i>
AP Computer Science A	10 Credits	#17513	Grade 11 + 12	<i>Prerequisite: Completion of Computer Programming 1 and Teacher Recommendation</i>

FAMILY AND CONSUMER SCIENCES

Exploring Early Childhood 1—H2	5 Credits	#67024	Grades 10, 11, 12	<i>Prerequisites: None</i>
Exploring Early Childhood 2— H2	5 Credits	#67424	Grades 10, 11, 12	<i>Prerequisite: Exploring Early Childhood 1. Successful completion of this course and portfolio preparation will allow students to apply for college credit at Middlesex Community College.</i>
Exploring Early Childhood 3/Directed Study — H2	10 Credits (Dual Enrollment)	#67623	Grade 11 + 12	<i>Prerequisite: Exploring Early Childhood 2 and Teacher Recommendation.</i>

BUSINESS EDUCATION

Introduction to Business Law-H2	5 Credits	#61224	Grades 10-12	<i>Prerequisites: None</i>
Media Literacy For The 21st Century—H2	5 Credits	#62124	Grades 9-12	<i>Prerequisites: None</i>
Accounting 1— H2	5 Credits (Dual Enrollment)	#62424	Grades 9-12	<i>Prerequisites: None</i>
Personal Financial Literacy-H2	5 Credits	#61424	Grades 9-12	<i>Prerequisites: None</i>
Marketing —H2	5 Credits (Dual Enrollment)	#65024	Grades 9-12	<i>Prerequisites: None</i>
Sports And Travel Marketing—H2	5 Credits	#61724	Grades 9-12	<i>Prerequisites: None</i>
Management—H2	5 Credits (Dual Enrollment)	#65424	Grades 9-12	<i>Prerequisites: None</i>

Career and Business Pathways —H2	5 Credits	#62024	Grades 9-12	<i>Prerequisites: None</i>
Retail Marketing and Management – H2	5 Credits	#64224	Grades 9-12	<i>Prerequisites: None</i>
Microsoft Office Certification I + 2 - H2	5 Credits	#61524, #61624	Grades 9-12	<i>Prerequisites: None</i>
Retail Internship	5 Credits	#64324	Grades 9-12	<i>Prerequisites: None</i>
Communication/Media 1	5 Credits	#81002	Grades 9-12	<i>Prerequisites: None</i>
TV & Broadcasting	5 Credits	#81201	Grades 9-12	<i>Prerequisites: None</i>

DIGITAL LITERACY

Technology Troubleshoot and Repair	5 Credits	#68021	Grades 9-12	<i>Prerequisites: None</i>
Student_HelpDesk Internship	5 Credits	#68022	Grades 9-12	<i>Prerequisites: None</i>

TECHNOLOGY/ENGINEERING

Introduction to Furniture and Construction Management	10 Credits	#69223	Grade 9 – 12	<i>Prerequisites: None</i>
Intermediate Furniture and Construction Management	10 Credits	#69123	Grade 9 – 12	<i>Prerequisites: #69223</i>
Advanced Furniture and Construction Management	10 Credits	#69723	Grade 10 – 12	<i>Prerequisites: #69723</i>
Introduction to Architecture and Civil Engineering	10 Credits	#69523	Grade 9 – 12	<i>Prerequisites: None</i>
Intermediate Architecture and Civil Engineering	10 Credits	#69623	Grade 10 – 12	<i>Prerequisites: #69523</i>
Advanced Architecture and Civil Engineering	10 Credits	#69923	Grade 11 + 12	<i>Prerequisite: Teacher recommendation</i>
Robotics	5 Credits	#69724	Grade 9 - 12	<i>Prerequisites: None</i>
PLTW: Introduction to Engineering Design	10 Credits	#25323	Grade 9 - 12	<i>Prerequisites: None</i>
PLTW: Principles of Engineering	10 Credits	#25423	Grade 9 - 12	<i>Prerequisites: None</i>

English

Journalism	5 Credits	# 07024	Grade 10 – 12	<i>Prerequisites: None</i>
Public Speaking	5 Credits	# 07704	Grades 10 - 12	<i>Prerequisites: None</i>
AP Seminar	10 Credits	#06113	Grade 11	<i>Prerequisites: None</i>

Social Studies

Speech and Debate	5 Credits	# 34021	Grades 10 - 12	<i>Prerequisites: None</i>
Civics	5 Credits	#38724	Grades 11-12	<i>Prerequisites: None</i>
AP Research	10 Credits	#06213	Grade 12	<i>Prerequisites: AP Seminar</i>