

# PROGRAM OF STUDIES

MANCHESTER HIGH SCHOOL CENTRAL  
MANCHESTER MEMORIAL HIGH SCHOOL  
MANCHESTER HIGH SCHOOL WEST



2021 - 2022

# MANCHESTER HIGH SCHOOLS

Central, Memorial and West High Schools are located in the heart of New England, Manchester, New Hampshire. These three high schools are focused on preparing our students for a successful future. Our students have access to the courses that prepare them for college and career readiness. Dual Enrollment and Running Start Programs are offered at all three schools through local colleges like Southern New Hampshire University, Manchester Community College, and UNH-Manchester that allow students to earn college credit for courses in high school. Our athletics teams play in the Fall, Winter, and Spring to represent our schools. Extended Learning Opportunities (ELO's) allow for flexible scheduling options along with the Virtual Learning Academy Charter School (VLACS). Manchester's Advanced Placement (AP) courses, spanning multiple disciplines, prepare students to excel consistently on the AP exams, allowing them the opportunity to receive college credit.

Manchester students have access to Career and Technica Programs offered at the Manchester School of Technology (MST). Manchester has a World Language program with Neustadt an der Weinstrasse, Germany where students live and learn about another culture. Our high schools are accredited by the New England Association of Schools and Colleges (NEASC) and by the New Hampshire Department of Education.



**MANCHESTER HIGH SCHOOL WEST** is located on the West Side of Manchester. West students develop the tools and sense of citizenship, critical thinking, communication, collaboration and creativity that will allow them to be successful in the future. These five C's are the pillars of success at Manchester High School West.

West is home to a four-year STEAM AHEAD NH - Science, Technology, Engineering, Art, and Mathematics program focused on project-based learning and enabling students to earn college credit during high school at no cost. The THEATRE KNIGHTS program - is the only four-year internationally recognized Theatre Arts Program in the City of Manchester. This group puts on two performances each school year and has been recognized locally, regionally and internationally for its excellence. Students have access to internships, externships, "learn while you earn," and job-shadow opportunities that allow students to get experience and skills that relate directly to their own personal career goals. West has a Partnership with Catholic Medical Center where students have an opportunity to explore, learn and gain experience working in a hospital that has sixteen different departments. This partnership is a unique and special opportunity thanks to CMC. West has student-centered clubs, advised honor societies, outdoor life-style and student support groups, and a student government.

**WEST HIGH SCHOOL GRADUATES** have attendend such post-secondary schools as Harvard, Dartmouth, MIT, Boston College, US Military Academy, University of Connecticut, University of New Hampshire, Keene State College, Southern New Hampshire University, Manchester Community College and other competitive

schools. Continued learning pathways are the norm at West and many resources and support pieces are in place to make college a reality for anyone who attends West.

NOTABLE GRADS that have gone on to do pretty awesome things include; Maurice and Richard McDonald (co-founders of the McDonald's Corporation), Charles Revlon (founder of the Revlon cosmetic company), Josh Meyers (actor on MADtv and That '70s Show), Janel Bishop (1991 Miss Teen USA), and Seth Meyers (cast member of Saturday Night Live and current host of Late Night with Seth Meyers).



**Manchester High School Central** has a long tradition of academic excellence in preparing students to achieve success in college and career opportunities. Central PRIDEs, on its core values of Potential, Respect, Inspiration, Diversity, and Engagement, consistently promotes rigor for all students while meeting the needs of a diverse student population. The standards-based curriculum challenges students to explore a wide variety of required and elective courses, encouraging them to become life-long learners. Central is located in the middle of the city of Manchester and allows students convenient access to the Currier Museum of Art, Carpenter Memorial Library, the New Hampshire Institute of Art, and the Palace Theater.

Student excellence is further showcased by the many honor societies, including the National Honor Society, National Art Honor Society, National English Honor Society, Tri-M Music Honor Society, Rho Kappa Social Studies Honor Society, and World Language Honor Society.

Balancing the challenging academic experience are the numerous co-curricular and athletic opportunities. Central has a variety of organizations that encourage students to pursue their interests outside the classroom. Whether it is on the stage with the Maskers, writing for the national award-winning Little Green newspaper, performing community service projects with Key Club, competing on a state and national level with DECA, traveling to New York City to participate in Art Honor Society activities,

broadcasting the daily news and events on Central Vision News, marching in parades with the band, playing and singing at cabaret nights with the orchestra and choir, building robots for competition in FIRST Robotics Competition and FIRST Tech Challenge, competing in Mock Trials, Granite State Challenge, Science Olympiad, or Math Team meets, there is an activity to fit every interest.

The Central High School Hall of Fame boasts graduates who are Rhodes Scholars, college presidents and professors, renowned writers, politicians, Hollywood celebrities, military leaders, cartoonists, and famous athletes and coaches. Our most recent graduating class includes students attending

Harvard, Dartmouth, the Naval Academy, UNH, SNHU, and MCC as well as numerous others throughout the country. With the excellent foundation nurtured at Central, we look forward to seeing the next class of students achieve even greater successes.



**Manchester Memorial High School** is home to the Crusaders. The curriculum offers a wide selection of courses to meet the needs and abilities of all students.

Our rigorous course offerings include, Honors, Advanced Placement, Dual-Enrollment and Running-Start courses, along with diverse elective offerings. Some of the academic success is highlighted by inducting students into the National Honor Society, National Art Honor Society, National Latin Honor Society and National American Sign Language Honor Society among others. Manchester Memorial High School has an engineering lab for the award winning FIRST Robotics Team 238, American Sign Language Courses, national and a state award winning DECA program. In addition students participate in community service projects with the Key Club of Manchester. Memorial has had numerous national Scholastic Art Award Gold Key winners, musical performances by the student theater group, the Crusader Players, and an extensive orchestra, choral and instrumental music program featuring annual All-State and All-State Jazz winners.

The Memorial High School Hall of Fame boasts graduates who are well-renown military leaders, famous athletes (5 professional), politicians, writers, physicians and lawyers, and software developers. The high quality academic and social experience at Memorial High School prepares students for their future.

Our high school students will experience the celebration of diversity. The traditions of our high schools will leave our students with Central, Memorial and West Pride that will last them a lifetime.

**"Excellence and Equity ~ Every Classroom ~ Every day"**



KEY TO COURSE DESCRIPTIONS

(FND) FOUNDATIONS

These courses enhance students’ knowldege in a subject area while guiding students towards developing skills, such as problem solving, that are needed for post secondary success.

(CCP) COLLEGE & CAREER PREPARATORY

These courses are designed for students to allow a great deal of opportunity in post-secondary education and career planning. They will provide continued exposure and reinforcement of those skills and knowledge necessary for understanding, and success now and in the future.

(ACP) ACCELERATED COLLEGE PREPARATORY

These courses are designed for college-bound students who have demonstrated previous academic success. Pace, depth of knowledge, and pursuit of critical skills characterize courses at this level.

(HON) HONORS & ADVANCED PLACEMENT

These rigorous courses of study are designed for the college-bound student whose skills have progressed beyond the mastery level. These courses emphasize higher-order thinking skills, independent and self-directed research, and stress problem solving in multidisciplinary contexts.

(COL) - Running Start or Dual Enrollment

These honors and advance placement courses may also earn college credit at Manchester Community College or Southern New Hampshire University depending on the location. These courses are based on availability at each high school. NOTE: This course designation may appear on your student’s report card if a COL course is available.

**WEIGHTED CLASS RANK: Point Values** The weighted class rank will determine final rank in class. The chart below indicates the value of each grade at each level.

CURRENT GRADING SCALE					
NUMBER GRADE	LETTER GRADE	UNWEIGHTED GPA VALUE	WEIGHTED GPA VALUES		
			HON	ACP	CCP
100 - 90	A	4.00	12.00	10.00	8.00
89 - 85	B+	3.50	10.50	8.75	7.00
84 - 80	B	3.00	9.00	7.50	6.00
79 - 75	C+	2.50	7.50	6.25	5.00
74 - 70	C	2.00	6.00	5.00	4.00
69 - 65	D	1.00	3.00	2.50	2.00
64 - 60	F	0	0	0	0
	WF	0	0	0	0
	N	AUDIT	NONE		

Principal’s List is an average between 4.0 and 3.85; High Honors is an average between 3.5 and 3.84; Honor Roll is an average between 3.0 and 3.49. Students who fail a class are not eligible for Principal’s List, High Honors or Honor Roll. A simple GPA is calculated based on these points.

SAMPLE REQUIREMENTS FOR COLLEGE PLANNING

Academic Area	Most 4 Year Colleges	Highly Selective Colleges
English	4 Credits	4 Credits
Mathematics	3-4 Credits: including Algebra I & II and Geometry	4 Credits: including Algebra II, Pre-Calculus and Calculus
Science	3-4 Credits including Chemistry	4-5 Credits including Chemistry, Physics and/or electives
Social Studies	3-4 Credits	4 Credits
World Language	2-4 Credits	3-4 Credits
Additional Electives	4 Credits	5+ Credits

REQUIRED COURSE SELECTION TIMETABLE

(Scheduling difficulties occasionally create exceptions)

	Grade 9	Grade 10	Grade 11	Grade 12
Required Number of Courses	6 per semester	6 per semester	5 per semester	5 per semester
English	Genres of Lit and Comp	British Lit.	American Lit .	Full year or electives
Math	First year math	Second year math	Third year math	Fourth year math
Science	Physical Science	Biology	Science elective(s) with labs	Science elective(s) with labs
Social Studies	Civics	World History or World Geography	US History	Economics
Physical Education	Physical Education	Physical Education elective		
Other	Health ICT Art World Language	Electives	Electives	Electives

Graduation Requirements Total 20 Credits Required for Graduation

- English: 4 Credits- 1 each year
  - Social Studies: 2.5 Credits
    - Civics: .5 Credit
    - World History: .5 Credit or 1.0 Credit
    - World Geography: 1 Credit
    - US History: 1 Credit
    - Economics: .5 Credit
    - (Options in Business Department)
- Math: 3 Credits + 1 Embedded Math Course
    - 1 Credit must be Algebra 1 or equivalent
  - Science: 2 Credits
    - Physical Science: 1 Credit
    - Biology: 1 Credit
  - Physical Education: 1 Credit
  - Health: .5 Credit
- Arts: .5 Credit
  - Info, Communication and Technology or Computer Science Principles: .5 Credit
  - Electives: 6 Credits

\*PLEASE NOTE: COURSES MAY RUN REMOTE-  
LY AT ALL HIGH SCHOOLS DEPENDING ON  
AVAILABILITY.

## SPECIAL PROGRAMS

## MANCHESTER HIGH SCHOOLS

**COMMUNITY SERVICE**

A student may earn 1/2 credit over one school year for 75 documented hours of community service. Pass/Fail credit towards an elective will be awarded. See club advisor or guidance counselor for further information (CENTRAL, MEMORIAL, WEST).

**EDUCATION TALENT SEARCH**

ETS, a TRIO program, encourages limited-income students from New Hampshire to consider and pursue education beyond high school in two or four-year programs of study. ETS is 100% funded by the US Department of Education and is offered at no cost to eligible participants. ETS counselors assist and motivate students to succeed in secondary school, to explore career options, and to research college at vocational programs for post high school study. ETS students in grades 9 - 12 refine career choices, research post-secondary education options, and explore financial aid possibilities. Financial aid information for all students and parents is also a vitally important component (CENTRAL, MEMORIAL, WEST).

**EXTENDED LEARNING OPPORTUNITY** CREDIT BEARING

The ELO Program in the Manchester School District is an opportunity for students, regardless of age, level, or GPA, to explore and receive credit for extended learning activities outside the traditional classroom and school day, including, but not limited to internships, community service, independent study, private instruction, work-based learning, and various other activities. The granting of credit shall be based on a student's demonstration of core competencies, as approved by certified personnel (CENTRAL, MEMORIAL, WEST).

**ACCESS ACADEMY** CREDIT BEARING

The courses in this 10-week program are held on Mondays or Tuesdays after school on the St. Anselm College campus. Offerings evolve annually, with about a dozen programs offered each semester. Round-trip transportation is provided from your school to the St. Anselm campus and back to your neighborhood; and dinner is provided on campus. May be done as an ELO credit-bearing program (CENTRAL, MEMORIAL, WEST).

**ROBOTICS: FOR INSPIRATION AND RECOGNITION OF SCIENCE & TECHNOLOGY (CHAOS/POWER KNIGHTS/FIRST)** CREDIT BEARING

A co-curricular learning experience designed to teach students about science and engineering. FIRST students work with engineers and alumni to design and build a robot to compete in athletic-style competitions with schools from across the country. May be done as an ELO credit-bearing program (CENTRAL, MEMORIAL, WEST).

**MANCHESTER-NEUSTADT STUDENT EXCHANGE PROGRAM**

Since 1990, the City of Manchester has had a sister-city relationship with Neustadt an der Weinstrasse, Germany. As part of the sister-city relationship, academic exchanges take place between the three Manchester high schools and the three high schools in Neustadt. Students from Manches-

ter have the opportunity to live with host families in Neustadt for periods as short as three weeks (group exchanges) or for as long as one year (individual exchanges). In return, the family of a participating student agrees to host a student from Neustadt for an equivalent period of time. Information regarding student exchanges may be obtained from the high school German teachers (CENTRAL, MEMORIAL).

**EL SOCIAL SERVICES**

Committed to serving the English Language Learners, the EL social worker provides a full range of services to students who need additional support as they navigate a new school, culture and language, to ensure that students and their families with limited English proficiency have access to higher level learning opportunities and the social and academic support services available to them (CENTRAL and WEST).

**PEER TUTORIAL PROGRAM**

Peer tutors who have demonstrated a high level of proficiency in a major subject area volunteer their time to assist students having academic difficulty. Many students take advantage of this opportunity to enhance their skills and to improve their grades. Tutoring is used to supplement the extra help provided by the teachers on their make-up night. Students meet with their tutors in the library two or three times a week during a study or a free period. Tutoring is also provided before and after school. Sign-up sheets are available in the main office for this program. (CENTRAL, MEMORIAL, WEST)

**STUDENT ASSISTANCE**

The Student Assistance Program is a comprehensive, school-based counseling and education program. The primary goal of this program is the prevention, early-intervention and treatment of alcohol and other drug related problems. Services are provided for students who have stresses in their lives that interfere with their academics and/or could lead to substance use. Examples of such stresses include: being affected by another's use of substances, the loss of a loved one, being in a difficult relationship, and dealing with abuse. (CENTRAL, MEMORIAL, WEST)

**UPWARD BOUND (UB)**

The Upward Bound program at the University of New Hampshire works with high school students to help them fulfill their dreams of going on to college. Students who participate in Upward Bound live at UNH for six weeks during the summer, take college-preparatory classes, and engage in workshops, activities and trips. During the academic year, UB students participate in college trips, receive tutoring, and meet twice monthly with an advisor to receive assistance with the college selection and application process, financial aid, and SAT preparation. Interested freshmen and sophomores should see Guidance about attending an informational slide show at the school in February. Upward Bound is free to eligible students who are chosen to participate. (CENTRAL, MEMORIAL, WEST)

**VLACS**

The Virtual Learning Academy Charter School is an on-line educational opportunity for all New Hampshire students. VLACS offers free on-line courses that can be taken to augment course offerings, to make up missed or failed work, or to help with scheduling conflicts. Courses can be taken from home or at a school's computer lab. VLACS courses require disciplined work habits. Please see your guidance counselor if you are interested in learning more, or go to the VLACS website ([www.VLACS.org](http://www.VLACS.org)) (CENTRAL, MEMORIAL, WEST).

**CREDIT RECOVERY PROGRAM**

Manchester high schools offer an online credit recovery program (CRP). This program is a self-paced, rigorous computer-based learning opportunity. The administration must approve all applications for the credit recovery program. (CENTRAL, MEMORIAL, WEST)

**TRANSITIONAL SOCIAL SERVICES**

This person assists students who have been displaced and are in transitional living arrangements. This individual works to eliminate any/all barriers that these students may face and ensure that they are able to attend school and achieve success.

**MY TURN CAREER PROGRAM****CREDIT BEARING**

This is a Pass/Fail course which meets a minimum of two times per week in lieu of a study for the entire school year. The course is a Pre-Employment/Work-Maturity program for eligible students. Key components of the Career Program are: Employment Preparation/Work-Based learning, Career Exploration and Development, Tutoring and Study Skills, Leadership Development, Adult Mentoring, Comprehensive Guidance and Counseling, and one-year follow up services. Students must complete the application package, which can be obtained from the guidance department (WEST and CENTRAL).

**THE NEW HAMPSHIRE SCHOLARS INITIATIVE**

The New Hampshire Scholars Initiative is an effort to encourage and motivate all high school students to complete a defined, rigorous academic course of study that prepares them for successful transition to college or to enter into the competitive job market. New Hampshire Scholars is a community-based program that encourages students to take a more rigorous core course of study in high school. The program is designed to provide a pathway of courses that will assure a student is college ready, work ready, and ready for life. Please see your school counselor for details or visit <http://www.nhscholars.org> (CENTRAL, MEMORIAL, WEST).

**NON-DISCRIMINATION POLICY**

"It is the policy of the School Board, in its actions, and those of its employees, that there shall be no discrimination on the basis of gender, race, religion, nationality, ethnic origin, age or handicap, for employment in, participation in, or operation and administration of any education program or activity in the Manchester School District."

**ACCREDITATION**

The New England Association of Schools and Colleges accredits schools and colleges in the six New England states. Membership in one of the six regional accrediting associations in the United States indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators. Colleges support the efforts of public school and community officials to have their secondary school meet the standards of membership. Manchester High School Central is a charter member of the New England Association of Schools and colleges and maintains active membership in that group.

**GRADE PLACEMENT**

A student will achieve the grade level listed when the corresponding credits have been earned:

Sophomores:	4 credits
Juniors:	9 credits
Seniors:	15 credits

**DIPLOMA WITH DISTINCTION**

Students in the Manchester School District are eligible for a Diploma with Distinction when they meet the following criteria:

- Student must have more than 25 credits
- Student must be eligible for class rank (i.e. student should have completed a minimum of





## MANCHESTER SCHOOL OF TECHNOLOGY

Manchester School of Technology, the largest of twenty-eight Career and Technical Centers in New Hampshire and an integral part of the public school system of the City of Manchester, has provided junior and senior high school students from Manchester with unique opportunities for developing high- technology career and college prep skills since its opening in 1982. Below are the following CTE programs available to students. Interested students should consult with their high school guidance counselor to determine scheduling and eligibility and are encouraged to contact MST Program instructors directly for additional information, or go to [mst.mansd.org](http://mst.mansd.org).

AUTOMOTIVE TECHNOLOGY	(CCP) & (ACP)
BUSINESS PRINCIPLES	(CCP) & (ACP)
CAREERS IN EDUCATION	(CCP) & (ACP)
COLLISION REPAIR AND REFINISHING TECHNOLOGY	(CCP) & (ACP)
COSMETOLOGY	(CCP) & (ACP)
CULINARY ARTS	(CCP) & (ACP)
DESIGN COMMUNICATION	(CCP) & (ACP)
ELECTRICAL TECHNOLOGY	(CCP) & (ACP)
EMERGENCY MEDICAL TECHNICIAN	(ACP)
FIRE SCIENCE	(ACP)
GAME DESIGN	(ACP)
GREEN TECHNOLOGY	(CCP) & (ACP)
HEALTH PROFESSIONS	(ACP)
HVAC	(CCP) & (ACP)
MANUFACTURING	(CCP) & (ACP)
PUBLIC SAFETY/LAW	(ACP)
RESIDENTIAL CARPENTRY	(CCP) & (ACP)
RESIDENTIAL PLUMBING	(CCP) & (ACP)
VIDEO & DIGITAL MEDIA PRODUCTION	(ACP)

## EARN COLLEGE CREDIT WHILE IN HIGH SCHOOL



What is Running Start? Scan this QRcode to watch a short video.



### RUNNING START

Running Start is a concurrent enrollment program that provides high school students with the opportunity to take college courses while also completing the requirements for high school graduation.

Transfer: The students will receive a college transcript upon successful completion of this course.

The credits can be transferred to more than 200 colleges and universities across the country.

Cost: \$150 per course. For more information about Running Start:

<http://www.mccnh.edu/academics/running-start-program>



### DUAL ENROLLMENT PROGRAM

Southern New Hampshire University High School Dual Enrollment Program allows high school students the opportunity to earn college credits while in high school. At the high school, designated courses have been aligned to meet the same content, rigor, and learning outcomes as those of the University. The high school teachers instructing these courses have met the University's adjunct faculty requirement and have been approved by the University.

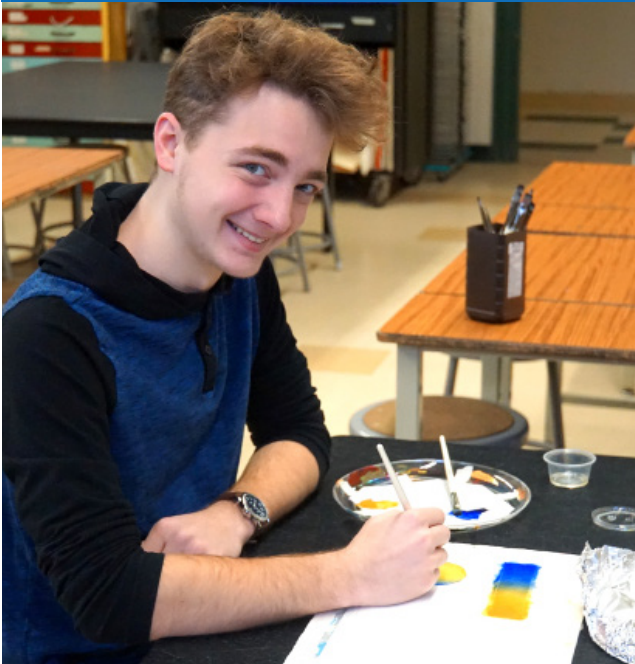
Cost: \$100 per course; \$25 for labs where appropriate.

Transfer: Portability and transferability of credits rests solely with the individual colleges and universities as they have varying policies on accepting transfer credits; thus, it is the student's responsibility to consult with higher educational institutions to determine whether the SNHU course(s) can be transferred.

For more information about SNHU Dual Enrollment: <https://www.snhu.edu/student-experience/campus-experience/campus-academics/snhu-in-the-high-school-program>

Additional information regarding these programs can be obtained from a school counselor or high school administrator. Students and families are encouraged to check out the course descriptions in the Program of Studies to find out which classes may offer college credit through Running Start or SNHU Dual Enrollment. If college credits are available, students will have the opportunity at the beginning of the course to complete an application and submit the course registration fee in order to earn the credit for the course. Once the registration period closes, students will not be allowed to register for college credit.





ART

**IMPORTANT NOTE REGARDING ART:**  
Successful completion of Fundamentals of Art is required prior to taking any further advanced art courses. Additional Prerequisites are listed for specific course as indicated in individual course descriptions.

**INTRODUCTION TO ART**  
1200 (ACP)  
.5 CREDIT SEMESTER

This drawing course will deal with the elements of drawing with a concentration in line, shape, form, and texture. Students will work in a variety of media with emphasis on pencil and black & white graphic techniques used both conventionally and in an imaginative manner. Perspective and drawing from observation will be covered extensively. In addition, color theories may be introduced. Students will be working on projects with a higher degree of difficulty and sophistication. This course will fulfill the 0.5 credits in Fine Arts required for graduation. NOTE: Course 1200 and 1203 are the same as taking Course 1209/1210 for the full year.

**INTRODUCTION TO COLOR THEORY**  
1203 (ACP)  
.5 CREDIT SEMESTER

This course will provide students with an introduction to the elements of design and color theory. Students will learn painting techniques in a variety of media. Color theory will also be applied through the application of colored pencil, pastels, inks, and printmaking. Art History will be an important component in this course. This course will fulfill the .5 credit in Fine Arts required for graduation. NOTE: Course 1200 and 1203 are the same as taking Course 1209/1210 for the full year.

**FUNDAMENTALS OF ART**  
1209/1210 (ACP)  
1 CREDIT FULL YEAR

This full year course involves an in depth study of the elements of art and design. Students will learn concepts of drawing, perspective, color theory and painting techniques. Additional study in a variety of media including two-dimensional and three-dimensional form will be included as time permits. Art history will be included in the curriculum throughout the year. This course provides the technical background for all advanced art classes in the department. Students who have taken Introduction to Art and/or Introduction to Color Theory are not eligible for Fundamentals of Art. Written work will be required during both semesters.

To me, success is making a positive difference through art - making art that affects the world and that changes the way people feel about themselves and the world. ~ Kat Graham

**ART FOR CIVIC ENGAGEMENT (WEST ONLY)**  
1223 (ACP)  
.5 CREDIT SEMESTER

Art has often been used as a catalyst for social change and community representation. Throughout history, communities such as LGBTQ+, women, multicultural, people of color, environmentalists and more have used art in attempts to promote awareness and recognition in their communities. Throughout this course students will learn about global artists that have used their work in this manner within their communities. They will participate in projects that are expressive for themselves, others, or for the communities they associate or connect with. Students should be prepared to work in any medium for change and be willing to research in an area of interest during the semester as well as create work based on their research. This work will be displayed in a public community space during a final exhibition.

**SMARTPHONE PHOTOGRAPHY (\*WEST)**  
1224 (ACP)  
.5 CREDIT SEMESTER

This class is a photo option that allows the student to explore digital photography through the use of their smartphone. Students will be given a range of assignments including subjects to explore and visual challenges to solve using techniques, applications and processes in this digital age. Students will experiment with composition, color, and editing skills during assignments. Students may be required to purchase apps and print images on their own. This class is not a prerequisite for advanced study in photography. Prerequisite: Successful Completion of Introduction to Color Theory/Fundamentals of Art.

**PHOTOGRAPHY 1**  
1231/1232 (ACP)  
1 CREDIT FULL YEAR

This course offers an introduction to black and white photography. Students will be taught how to process film, image development, technical skills using a camera, and composition while creating an artistic photographic image. Students may be provided with their own manual SLR 35 mm film camera if necessary. College credit may be earned where available.

**PHOTOGRAPHY 2**  
1229 (ACP)  
.5 CREDIT SEMESTER

This course offers students the opportunity for growth with the expansion of the techniques and use of Medias covered in Photography 1. Students will study photographers of the past and present to further their own skills. Students may be provided with their own manual SLR 35 mm film camera if necessary. Prerequisite: Successful completion of Photography 1. College credit may be earned where available.

**DRAWING 1**  
1251/1252 (ACP)  
1 CREDIT FULL YEAR

This advanced drawing class is an essential class for students with an interest in developing their technical skills in drawing. Both observational drawing and creativity-based projects will be included in the student's portfolio development. Emphasis will be on drawing from observation and on developing superior hand/eye coordination. Subject matter will consist of still-life and natural objects treated in a creative manner. Ample opportunity will be given to students to develop their own style while learning skills with a variety of drawing media. College credit may be earned where available.

**ADVANCED DRAWING 2**  
1238 (ACP)  
.5 CREDIT SEMESTER

This course offers students the opportunity for growth and progress in the techniques learned in Drawing1, as well as an introduction to a variety of art materials and techniques. Emphasis will be on developing a creative approach through self-exploration and on refining drawing skills. Portfolio-level work will be developed. Additional Prerequisite: Successful completion of Drawing 1.

**ADVANCED DRAWING 3**  
1240 (ACP)  
.5 CREDIT SEMESTER

This course is a continuation and expansion of the techniques learned in Drawing 1 and 2. Emphasis will be on developing a creative approach through self-exploration and refining drawing skills with an opportunity to utilize new art materials and techniques. Portfolio work will be developed. Additional Prerequisite: Successful completion of Drawing 2.

**PAINTING 1**  
1245/1246 (ACP)  
1 CREDIT FULL YEAR

Painting involves the exploration of a variety of painting media including watercolor, gouache, and acrylic. Techniques such as blending, overpainting, texturing, and layering will be stressed. Students will work independently using figurative, landscape, objective and nonobjective motifs, developing their own creative expression through a wide range of painting media and styles. Abstraction and realism will be studied in conjunction with the great masters.

**PAINTING 2/PAINTING 3**  
1248/1249 (ACP)  
.5 CREDIT SEMESTER

These semester courses provide the opportunity to continue to solve visual problems through painting. They apply techniques, processes and compositional skills to create images through a variety of wet media. The focus of this class is to refine observational, compositional and visual problem solving. This course does qualify the student for AP Studio Art and is strongly recommended for Portfolio students. Prerequisite: Successful completion of Painting 1.

**INTRODUCTION TO ILLUSTRATION**  
1250 (ACP)  
.5 CREDIT SEMESTER

This course provides students with an introduction to illustration. Students will use a variety of media to create a variety of forms expressing their ideas visually. Students will create art projects and advanced research topics that analyze and depict an understanding of the styles and techniques used by advanced illustrators. Students will have access to a variety of advanced art materials such as colored pencils, watercolors, pen and ink, acrylics and other supplies.







**POTTERY 1**  
**1266**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This course introduces students to the various hand building techniques while creating both decorative and functional pottery. Students will incorporate the principles of design as they are exposed to the history and the numerous processes involved in pottery creation.

**POTTERY 2**  
**1271**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This course offers students the opportunity for personal growth of all hand building techniques and skills learned in Pottery 1. The Potter's Wheel will be introduced and explored through a variety of projects. Proper techniques and problem solving skills will be necessary. Additional Prerequisite: Successful completion of Pottery 1.

**POTTERY 3**  
**1273**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This course allows students to explore their own ideas while further developing both their hand building skills and techniques used on the Potter's Wheel. Time will be utilized in understanding the processes involved with construction, glazing, firing and studio upkeep. Proper techniques and problem solving skills will be necessary. Prerequisite: Successful completion of Pottery 2.

**SCULPTURE 1**  
**1275**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This course offers students the opportunity to explore a wide variety of materials while understanding the processes used in creating three dimensional forms. Past and present sculptors will be introduced and studied. Creativity, originality and problem solving skills will be stressed throughout the artistic process.

**SCULPTURE 2**  
**1276**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This course further develops the skills and techniques learned in Sculpture 1. Students will explore their own ideas while incorporating various Sculptors from the past and present. Additional Prerequisite: Successful completion of Sculpture 1.

**COLLABORATIVE COMMUNITY ARTS (WEST ONLY)**  
**1279**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

Collaborative Community Arts is a place where student voices are heard and students work together to beautify the school for positive change. In this class students

collaborate on ideas to pursue throughout the school that boost morale and school culture. Students will communicate their ideas with one another as well as work with various groups of students throughout the semester. This class is an opportunity to change the climate of the school by creatively thinking about what our students need and strive to make a welcoming space that represents all learners. This class is a major part of our community as it requires active participation outside of the classroom and in the surrounding spaces fostering a positive collaborative environment. Students will primarily work with large to small mural design and the medium of paint. Prerequisite: Faculty approval.

**COMPUTER GRAPHICS 1 (CENTRAL/MEMORIAL ONLY)**  
**1255/1256**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

Computer Graphics 1 (Graphic Design) explores the application of design principles and creative visual problem solving using industry standard applications from a variety of program sources. With the emphasis on understanding and applying appropriate design methodologies, students will develop print collateral as well as media based imagery using their own creative concepts and designs. Computer Graphics 1 allows students to gain a technical foundation for effective visual design solutions while fulfilling the computer literacy requirement for graduation. College Credit may be offered for successful completion of this course. College Credit is not available at all schools, please check with your guidance department for more information.

**COMPUTER GRAPHICS 2 (CENTRAL/MEMORIAL ONLY)**  
**1257/1258**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

This course continues to explore the application of design principles and methods of visual problem solving as used in the graphic design industry. Emphasis is placed on the expansion of proficiency in all aspects of the design process including technical skill, creative brainstorming, critical thinking and presentation of design solutions. Industry standard as well as open source software will be explored as students build a portfolio of 2D and 3D work. 3 college credits may be earned through the Running Start Program, if available. Prerequisite: Successful completion of Computer Graphics I.



“Success is not final; failure is not fatal: It is the courage to continue that counts.”  
—Winston S. Churchill.

**PORTFOLIO PREPARATION**  
**1293/1294**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

Portfolio Prep is a Studio Art class that is intended to develop a portfolio of individual work. The student will be encouraged to develop an artistic voice using a variety of media and a combination of directed and independent pieces of artwork. Digital images, analysis of work, and critique will further develop a portfolio that the student will be able to use in high school learning.

**AP ART AND DESIGN**  
**1295/1296**  
**1 CREDIT**  
**(HON)**  
**FULL YEAR**

This class is designed for the talented and highly motivated student who is seriously interested in the study of the visual arts. Students will work independently on interpretation of a variety of visual ideas. A quarterly syllabus will be given with a variety of choices to work on. The course is based upon the AP Studio Art course sponsored by the College Board with additional work added at the instructor's discretion. Students will have the opportunity to take the Advanced Placement Exam in Studio or Two Dimensional Art. Each student will be required to pursue a particular visual concern in depth. They will also participate in a variety of art competitions, field trips, and organize a senior exhibit at the end of the year. Artwork created in this class will be exhibit and portfolio ready.

**COMPUTER ANIMATION**  
**1656**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This course offers an overview of animation, chronicling the history, styles and variety of animation techniques. Providing a foundation for advanced digital and traditional projects, students will learn how to plan, storyboard, sequence and develop animated shorts. They will use a variety of open source programs as well as physical mediums. Emphasis is placed on creative visual storytelling while building technical proficiency.

**BUSINESS**

**CAREER EXPLORATION/STUDY SKILLS**  
**1515**  
**.5 CREDIT**  
**(CCP)**  
**SEMESTER**

Career Exploration is designed to prepare students to make informed educational and career decisions. Students will do self-study on their interests, aptitudes, and strengths to set goals for their futures. Students will understand career clusters, the decision-making process, budgeting, and will complete career research in an area of interest. Students will learn how to prepare for the interview process and scholarship process.

**CAREER EXPLORATION**  
**1516**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

Career Exploration is designed to prepare students to make informed educational and career decisions. Students will do self-study on their interests, aptitudes, and strengths to set goals for their futures. Students will understand career clusters, the decision-making process, budgeting, and will complete career research in an area of interest. Students will learn how to prepare for the interview process and scholarship process. Students will do more in-depth research as well as oral and visual presentations.

**MARKETING 1**  
**1429/1430**  
**1 CREDIT**  
**(CCP)**  
**FULL YEAR**

This course provides a basic understanding of the entire marketing process in the areas of channel management, marketing-information management, market planning, pricing, product/service management, promotion, and selling. Emphasis is on the marketing mix – product, price, place, and promotion. Students have the option to participate in DECA and may have a role in the operation of the school store. This course may be used to meet the competencies for Economics. College credit may be earned where available.



**MARKETING 1**  
**1423/1424**  
**1 CREDIT** (ACP)  
**FULL YEAR**

This course provides basic understanding in the areas of channel management, marketing-information management, market planning, pricing, product/service management, promotion, and selling. Emphasis is on the marketing mix product, price, place, and promotion. Students will complete projects that have greater depth and mirror projects in the business world. Students have the option to participate in DECA and are required to participate in the operation of the school store. College credit may be earned where available.

**MARKETING 2**  
**1433/1434**  
**1 CREDIT** (CCP)  
**FULL YEAR**

Students will apply various marketing concepts to current trends in the real world through coursework and projects. Students will be responsible for preparing a daily deposit, ordering products and promoting new products that come into the store. Students have the option to participate in DECA and are required to participate in the operations of the school store.

**MARKETING 2**  
**1435/1436**  
**1 CREDIT** (ACP)  
**FULL YEAR**

Students will apply various marketing concepts to current trends in the real world through coursework and projects. Students will be responsible for preparing a daily deposit, ordering products and promoting new products that come into the store. Students will be required to complete the online virtual business simulation. Students have the option to participate in DECA and are required to participate in the operations of the school store.

**MARKETING 3 (WEST ONLY)**  
**1503/1504**  
**1 CREDIT** (ACP)  
**FULL YEAR**

Students will build upon knowledge gained in a prior marketing course. They will participate in supervisory and management activities focusing on the marketing mix, purchasing, financing, human resources, global marketing, pricing, and emerging technologies.



Students will prepare for advancement in marketing careers and postsecondary education. Classroom instruction will be reinforced through the use of case studies, field studies, guest lectures, and work-based learning experiences. Work to learn is available for this course where students combine classroom instruction and supervised on-the-job training in an approved position with continued supervision throughout the school year. Students will have to apply and adapt to certain standards to be considered for the work-to-learn opportunity.

**INTRODUCTION TO BUSINESS**  
**1449/1450**  
**1 CREDIT** (CCP)  
**FULL YEAR**

This course of study in business is an excellent choice for students considering a business discipline in college or direct entry into the workforce. Topics include the study of the economy, owning & operating a business, marketing, management, career planning, credit, and personal finance. This course may be used to meet the competencies for Economics.



**INTRODUCTION TO BUSINESS**  
**1467/1468**  
**1 CREDIT** (ACP)  
**FULL YEAR**

This course of study in business is an excellent choice for students considering a business discipline in college or direct entry into the workforce. Topics include the study of the economy, owning & operating a business, marketing, management, career planning, banking and credit, and personal finance. Students will complete research-based projects and business simulations. This course may be used to meet the competencies for Economics.

**PRINCIPLES OF MANAGEMENT**  
**1519/1520**  
**1 CREDIT** (ACP)  
**FULL YEAR**

This course provides a basic framework for understanding the role and functions of a manager and the principles, concepts, and techniques that can be used in carrying out these functions. Specific topics include planning, decision-making, organizing, leading, controlling, and innovating. Students have the option to participate in DECA and may have a role in the operation of the school store. College credits may be earned where available.

**ACCOUNTING 1**  
**1469/1470**  
**1 CREDIT** (CCP)  
**FULL YEAR**

Students will acquire critical skills in Accounting fundamentals needed for their future personal finance and working in or owning a business. Concepts and usage of assets, liabilities, equity, revenue, and expense accounts along with procedures to journalize and post daily transactions, prepare financial statements, and close a ledger at the end of the fiscal period are also covered. Class activities and simulations will further enforce concepts and critical thinking skills. 3 college credits may be earned through the Running Start Program, if available.

**ACCOUNTING 1**  
**1473/1474**  
**1 CREDIT** (ACP)  
**FULL YEAR**

Students will acquire critical skills in Accounting fundamentals needed for their future personal finance and working in or owning a business. Concepts and usage of assets, liabilities, equity, revenue, and expense accounts along with procedures to journalize and post daily transactions, prepare financial statements, and close a ledger at the end of the fiscal period are also covered. Class activities, simulations, and case studies will further reinforce concepts and critical thinking skills. 3 college credits may be earned through the Running Start Program, if available.

**BUSINESS LAW (\*CENTRAL)**  
**1492**  
**.5 CREDIT** (CCP)  
**SEMESTER**

This course examines our legal system and exposes students to a variety of current legal issues. Topics covered include the court system, civil law, criminal law, and contract law. Legal and ethical concepts are also analyzed. Mock trial and case studies further reinforce concepts and critical thinking skills. Students may participate in the Central High School Mock Trial competition.

**BUSINESS LAW (\*CENTRAL AND MEMORIAL)**  
**1493**  
**.5 CREDIT** (ACP)  
**SEMESTER**

This course examines our legal system and exposes students to a variety of current legal issues. Topics covered include the court system, civil law, criminal law, and contract law. Legal and ethical concepts are also analyzed. This course is fast paced and ideal for students with an interest in law. Mock trial and case studies further reinforce concepts and critical thinking skills. Students are required to participate in the Mock Trial competition.

**SPORTS & ENTERTAINMENT MARKETING**  
**1507/1508 (1507 MEMORIAL)**  
**1 CREDIT (0.5 MEMORIAL/SEMESTER)** (ACP)  
**FULL YEAR**

This course examines the entire marketing process as it pertains to the world of sports and entertainment marketing. Emphasis is on the marketing mix product, price, place, and promotion. Students have the option to participate in DECA. 3 college credits may be earned through the Running Start Program, if available. This course may be used to meet the competencies for Economics. College credit may be earned where available.

**ENGLISH**

The English Departments of the Manchester High Schools offer a program designed to help students prepare for success beyond high school. Through four years of study, it seeks to instill in each student an appreciation of the English language arts through a program of core and elective courses, based on the Manchester Academic Standards and Competencies. All courses stress the Communication Skills of Reading, Writing, Speaking, Language Concept and Development, Listening and Viewing. In addition, students have the opportunity to apply knowledge to authentic situations, while learning in the 21st Century classroom. In several of the course offerings, Running Start from Manchester





Community College and Dual Enrollment from Southern New Hampshire University college course credit may be available. In addition SUMMER READING is an EXPECTATION in the Manchester School District for ALL students. Courses taken at the HONORS and AP levels mandate summer reading. The following descriptions highlight skills a student should have in order to be successful in the following courses:

GENRES OF LITERATURE AND COMPOSITION

0203/0204

1 CREDIT

OPEN TO

(CCP)

FULL YEAR

FRESHMEN

This course, designed for first year students, introduces reading skills with classic and modern selections in the literary genres of fiction, non-fiction, drama and poetry. Research skills through MLA format expository writing will be emphasized. The development of reading, writing, vocabulary, and oral communication skills are emphasized. Students will use the research process to investigate, outline, and write a research paper in MLA format.

GENRES OF LITERATURE AND COMPOSITION

0205/0206

1 CREDIT

OPEN TO

(ACP)

FULL YEAR

FRESHMEN

This course, designed for first year students, introduces close reading skills with classic and modern selections in the literary genres of fiction, non-fiction, drama and poetry. Critical, analytical, researched, MLA format expository writing will be emphasized, as will the writing process. Creative and reflective writing will be explored, as will grammar and vocabulary in context. Students will use the research process to investigate, outline, and write a research paper in MLA format.

GENRES OF LITERATURE AND COMPOSITION

0207/0208

1 CREDIT

OPEN TO

(HON)

FULL YEAR

FRESHMEN

This course, designed for first year students, offers an intensive look at the literary genres of fiction, non-fiction, drama and poetry. Students practice close reading and literary analysis skills with challenging classic texts. Students will undertake an extensive study of the writing and revision process through creative, reflective, critical, analytical and MLA-guided expository writing. Students will study writing conventions and vocabulary. Students will use the research process to investigate, outline, and write researched analysis papers in MLA format.

BRITISH LITERATURE

0223/0224

1 CREDIT

OPEN TO

(CCP)

FULL YEAR

SOPHOMORES

This course, designed for second year students, provides reading selections surveying British Literature from the Anglo-Saxon period to contemporary British literature. Students will connect the literature to its time period and current issues. Students will write creative, expository, and reflective pieces. Writing instruction will provide practice with revision, such as improving paragraph structure, thesis statements, and the citation of evidence. The course also requires students to develop their speaking and listening skills through presentation and discussion. Prerequisite: English I or Genres of Literature and Composition

BRITISH LITERATURE

0225/0226

1 CREDIT

OPEN TO

(ACP)

FULL YEAR

SOPHOMORES

This course, designed for second year students, provides challenging reading selections surveying British Literature from the Anglo-Saxon period to contemporary British literature. Students practice close reading and literary analysis skills, as well as connect the literature to its time period and current issues. Students will further develop their critical, analytical and research skills through expository writing. Students will also write creative and reflective pieces. Writing instruction will provide practice with revision, such as improving word choice, structure, and evidence. The course also requires students to develop their speaking and listening skills through presentation and discussion. Prerequisite: English I or Genres of Literature and Composition

BRITISH LITERATURE

0227/0228

1 CREDIT

OPEN TO

(HON)

FULL YEAR

SOPHOMORES

This course is designed for second year students to embark in an in-depth study of British Literature, beginning with Beowulf and the Anglo-Saxon period. The course traces common themes as well as the history of each literary period. Students are expected to read and analyze challenging texts, engage in vigorous class discussion, and write frequent critical essays and researched papers. Students will also write creative and reflective pieces. Writing instruction will provide opportunity for multiple drafts and for honing the balance between student voice and textual evidence. The course also requires students to develop their speaking and listening skills through regular presentation and in-depth class discussions. This course has required summer reading. Prerequisite: English I or Genres of Literature and Composition



AMERICAN LITERATURE

0243/0244

1 CREDIT: ENGLISH

OPEN TO

(CCP)

FULL YEAR

JUNIORS

This course will emphasize an understanding and appreciation of the development of American Literature from the Puritan Age to the present. The first part of the course will range through the Civil War. The second part of the course will deal with the more contemporary American writers. This genre-based course provides students with traditional and contemporary selections of fiction, non-fiction, drama, and poetry. The development of reading, writing, vocabulary, and oral communication skills is emphasized. The writing process is an integral part of the course and requires an MLA-based research paper.

AMERICAN LITERATURE

0245/0246

1 CREDIT: ENGLISH

OPEN TO

(ACP)

FULL YEAR

JUNIORS

This course will emphasize an understanding and appreciation of the development of American Literature from the Puritan Age to the present. The first part of the course will range through the Civil War. The second part of the course will deal with the more contemporary American writers. This genre-based course provides students with traditional and contemporary selections of fiction, non-fiction, drama, and poetry. The development of reading, writing, vocabulary, and oral communication skills is emphasized. The writing process is an integral part of the course and requires an MLA-based research paper.

AP ENGLISH LANGUAGE & COMPOSITION

(SENIORS AT MMHS)

0275/0276

1 CREDIT

OPEN TO

(HON)

FULL YEAR

JUNIORS/ SENIORS

The AP English Language and Composition course focuses on the development and revision of evidence-based analytic and argumentative writing, the rhetorical analysis of non-fiction texts, and the decisions writers make as they compose and revise. Students evaluate, synthesize, and cite research to support their arguments. Additionally, they read and analyze rhetorical elements and their effects in non-fiction texts—including images as forms of text—from a range of disciplines and historical periods. The AP English Language and Composition course aligns to an introductory college-level rhetoric and writing curriculum. Through intensive reading, writing, and practice exercises, students will be prepared to take the AP exam in English Language and Composition.





**AMERICAN STUDIES - LITERATURE**  
(MUST BE TAKEN CONCURRENTLY WITH 0457/0458)  
0259/0260 (HON)  
2 CREDIT (DOUBLE PERIOD) FULL YEAR  
OPEN TO JUNIORS

Spanning the time period from Colonialism to the present, American Studies is rigorous in content and pace and designed to alternatively prepare students for the AP test in United States history. Readings in both disciplines, frequent writings, simulations, and class participation are integral to the course. College credits may be earned where available.

PLEASE NOTE THAT STUDENTS MAY TAKE SENIOR YEAR ENGLISH COURSES AS JUNIORS FOR ELECTIVE CREDIT.

SENIOR YEAR ENGLISH OFFERINGS

This section contains the elective offerings for Seniors. Seniors must take a full year offering or two semester courses. IMPORTANT: Students must choose one (1) writing course and one (1) reading course. Students may take more than one of either but may not take two (2) writing or two (2) reading courses to fulfill their requirement unless they have permission from the administration.

FULL YEAR OFFERINGS

**AP ENGLISH LITERATURE & COMPOSITION (JUNIORS AT MMHS)**  
0249/0250 (HON)  
1 CREDIT FULL YEAR  
OPEN TO SENIORS

AP English Literature and Composition is an introductory college-level literary analysis course. Students cultivate their understanding of literature through reading and analyzing texts as they explore concepts like character, setting, structure, perspective, figurative language, and literary analysis in the context of literary works. Through intensive reading, writing, and practice exercises, students will be prepared to take the AP exam in English Literature and Composition.

**CRITICAL READING/WRITING**  
0341/0342 (CCP)  
1 CREDIT FULL YEAR  
OPEN TO SENIORS

This course is designed for students who wish to strengthen their reading and writing skills in preparation for college or the workforce. Study skills and the application of academic skills to real life situations will be the focus of this course. There will be a concentration on reading comprehension, vocabulary, and decoding strategies through high interest fiction. Students should be able to read and write in a variety of genres. In addition, students should be able to write well for a variety of purposes, using Standard English to a proficient degree.



**LITERATURE AND FILM (FULL YR. MEMORIAL ONLY)**  
0361/0362 (ACP)  
1.0 CREDIT FULL YEAR  
OPEN TO SENIORS

Students will explore the world of film language, study the literary and film genres, and explore the history of film through reading and writing about the genre. The first semester will introduce the major steps of adapting a piece of writing into a film. The second semester will put these steps into practice, culminating in students collaborating on a short film, using the process learned throughout the year. Summer reading is a requirement for this course.

**WORLD LITERATURE (MEMORIAL ONLY)**  
0365/0366 (HON)  
1.0 CREDIT FULL YEAR  
OPEN TO SENIORS

This course will focus on critical analysis of literature, from a variety of cultures through ancient times to the modern era, and rigorous academic discussion. Expository writing and presentations are also expected. Summer reading is a requirement for this course. In preparation, students should be able to comprehend, analyze, and critique a variety of texts from various genres, and demonstrate excellent usage of Standard English grammar when writing compositions in different formats.

**SEMESTER WRITING COURSES**  
**WRITING WORKSHOP**  
0284 (CCP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS(ELECTIVE ONLY)/SENIORS

This course is designed to increase students writing proficiency in a variety of forms. Students will write using various strategies and techniques and understand the importance of writing for different audiences. Assignments will consist of a variety of styles including but not limited to personal essay, argument, persuasion and exposition writing. Students will learn about content, organization, and function. Students will outline, draft, edit, and share their writing with fellow classmates. The class will culminate in a portfolio and self-reflection.

**COLLEGE COMPOSITION**  
0283 (ACP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS(ELECTIVE ONLY)/SENIORS

This course is designed for students interested in improving their expository writing skills and completing college level work. The course will emphasize both critical responses to a variety of readings and the writing process culminating in an extensive research project. College credit may earned where available. Prerequisite: English II or British Literature.



**CREATIVE WRITING**  
0290 (ACP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS(ELECTIVE ONLY)/SENIORS

Creative Writing is for serious writers who want to challenge themselves. In a search for individual style and technique, students will write prose and poetry, focusing upon continuity and coherence. Students must meet the demands of the writing process: brainstorming, outlining, drafting, editing, critiquing, conferencing, presenting, and reading. The class will culminate in a portfolio and self-reflections. College credit may be earned where available

SEMESTER READING COURSES

**FOLKLORE AND MYTHOLOGY**  
0304 (CCP)  
0306 (ACP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS(ELECTIVE ONLY)/SENIORS

This course provides an overview of popular folklore and myths of antiquity, emphasizing the link among cultures so that students may appreciate the commonality among societies as well as modern day references to these stories. Students will read critically, write effectively in a variety of genres, complete research, and engage in interactive discussion.

**SHORT FICTION**  
0314 (CCP)  
0331 (ACP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS(ELECTIVE ONLY)/SENIORS

Through an emphasis on critical reading of short stories, students examine the components of short fiction, including structure and theme. Students also compose essays and stories to enhance their writing skills.

**MULTICULTURAL LITERATURE**  
0333 (CCP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS(ELECTIVE ONLY)/SENIORS

This course provides students with an understanding and appreciation of literature from diverse cultural backgrounds, while also focusing on communication and critical thinking skills. Reading, notetaking, writing, and other language art skills will be emphasized. Students should be able to utilize reading skills to understand an author's purpose and appreciate genres from different cultures.

**SOCIAL ISSUES IN LITERATURE**  
0355 (ACP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS/SENIORS

This course is designed to heighten students' awareness of literature as a means of conveying the impact of various social issues, including the history of book banning, censorship and women's issues. Emphasis will be on close reading of each text and comparative analysis through written and oral expression.

**LITERATURE AND FILM**  
0362 (ACP)  
.5 CREDIT SEMESTER  
OPEN TO JUNIORS/SENIORS

This course is designed to explore the relationship between the written word and the visual. Students will explore the world of film language, study the literary and film genres, and explore the history of film through reading and writing about the genre.

EL (ENGLISH LEARNERS)

Central, Memorial, and West ENGLISH LEARNERS (EL) classes are designed for students whose first language is not English. Enrollment is determined by the Home Language Survey, WIDA Screener, and ACCESS proficiency testing. Students taking EL classes receive high school credits by successfully meeting 21st century competencies and expectations through academics, communication, and social and civic components.





**EL BEGINNER ENGLISH**  
**2291/2292** (CCP)  
**1 CREDIT: ELECTIVE** FULL YEAR

This course uses a multi-tiered system of support, including a readers’ workshop model to accelerate language and literacy development. Students practice all four language domains across the content areas for a variety of communicative and academic purposes.

**EL INTERMEDIATE ENGLISH**  
**2293/2294** (CCP)  
**1 CREDIT: ELECTIVE** FULL YEAR

This course will introduce the writer’s workshop model to support academic writing development as part of a revision cycle. Students practice all four language domains across the content areas for a variety of communicative and academic purposes.

**EL STUDY SKILLS**  
**2371/2372** (CCP)  
**1 CREDIT: 1 ELECTIVE** FULL YEAR

This study skills course serves as a support for intermediate and advanced ESOL students taking rigorous academic courses required for graduation. Students learn a variety of strategies, including note-taking, academic reading, writing revision, time management, and organization. Students apply these to assignments and projects for courses required for graduation. Students may take this course concurrently with other EL courses.

“And by the way, everything in life is writable about if you have the outgoing guts to do it, and the imagination to improvise. The worst enemy to creativity is self-doubt.” Sylvia Plath



**FAMILY & CONSUMER SCIENCE**

**FOODS 1**  
**1527** (CCP)  
**.5 CREDIT** SEMESTER

In Foods I, students will learn and apply various food preparation skills, principles, and techniques, as well as nutrition facts. Students will use hands-on applications as well as academic skills to analyze real-life experiences in the kitchen. Students will work in teams to successfully prepare recipes, maintain a sanitary kitchen and properly demonstrate food preparation techniques. Students will participate in a self-analysis of personal nutrition to better understand the importance of a healthy lifestyle.

**FOODS 1**  
**1529** (ACP)  
**.5 CREDIT** SEMESTER

In Foods I, students will learn and apply various food preparation skills, principles, and techniques, as well as nutrition facts. Students will use hands-on applications as well as academic skills, to analyze real-life experiences in the kitchen. Students will work in teams to successfully demonstrate the ability to read a recipe and adjust the yield. Students will be required to conduct research on personal nutrient intake in order to understand the correlation of diet with a healthy lifestyle. This research will be presented in written and oral reports.

**FOODS 2**  
**1537** (CCP)  
**.5 CREDIT** SEMESTER

Foods 2 provides the opportunity to use a larger spectrum of ingredients along with requiring a higher level of comprehension in measuring and following recipe directions. Written work will be self-directed in research and graphing of foods and their nutrients, ultimately leading to nutrient analysis and evaluation. A unit on healthier choices in recipes, provided by the American Heart Association, will be covered. Notetaking and discussion of the food science behind the recipe will be covered in each unit. Prerequisite: Successful completion of Foods I or Baking.



“The best way to predict the future is to create it.” Abraham Lincoln

**WORLD OF FOODS**  
**1540** (CCP)  
**.5 CREDIT** SEMESTER

World of Foods is an elective for the student who is interested in learning to prepare foods from other countries and regions of the United States, as well as learning about customs and traditions. Students who take this class should feel confident in the kitchen, including food safety and sanitation practices, tools of measurement, and following recipes. Prerequisite: Successful completion of Foods 1 or Baking.

**BAKING**  
**1542** (CCP)  
**.5 CREDIT** SEMESTER

Baking introduces basic concepts of baking such as the important role of leavening agents and the science behind it. Accurate measuring is required for success in a food science class such as baking. Basic food preparation procedures will be taught along with observing safety and sanitation procedures in the lab. Food characteristics and nutrients of the basic baking ingredients will be studied. The baking experience in the lab will include quick breads, yeast breads, pies, cakes and cookies. The soft skills of teamwork and organizational skills, developed throughout the course, are invaluable in today’s work environment.



**INFANT AND CHILD DEVELOPMENT**  
**1557/1558** (CCP)  
**1 CREDIT** FULL YEAR

Infant and Child Development focuses on preparation for parenthood, prenatal development, and birth and infancy, as well as specific aspects of early childhood development through age 6. This class is recommended for the student who wants to raise a family or explore careers dealing with early childhood education.

**INFANT AND CHILD DEVELOPMENT**  
**1559/1560** (ACP)  
**1 CREDIT** FULL YEAR

Infant and Child Development focuses on preparation for parenthood, prenatal development, and birth and infancy, as well as the social, intellectual, emotional and physical development of the child from birth to 6 years. The student will be given supplemental readings and reflections to add depth to the course content. This class is recommended for the student who wants to raise a family or explore careers dealing with early childhood education.

“Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organizational objectives. It is the fuel that allows common people to attain uncommon results.” — Andrew Carnegie





**ADULT ROLES**  
**1563**  
**.5 CREDIT** (CCP)  
**SEMESTER**

Adult Roles is a course in which students will examine situations that they may encounter as adults and ways in which to function effectively in these roles, as well as some of the skills needed to fulfill future roles.

## LIBRARY SCIENCE

**LIBRARY SCIENCE**  
**1666**  
**.5 CREDIT** (ACP)  
**SEMESTER**

This is a work-study course which provides students with the opportunity to learn the basic operations of a Library Media Center. Students will be taught basic information science skills and the applications of various technologies. These skills will also be useful to students as the work on assignments for other courses. The course requires the student to work in the Library Media Center one full period each day. (Class Max/Period: 2)

## MATHEMATICS

**MATHEMATICAL LITERACY IS NECESSARY FOR SUCCESS IN THE 21ST CENTURY. EACH OF THE MATHEMATICS COURSES AT MANCHESTER HIGH SCHOOL CENTRAL FOCUSES ON QUANTITATIVE AND ABSTRACT REASONING, COMMUNICATION, MODELING, AND MAKING CONNECTIONS. TECHNOLOGY IS USED AS A TOOL TO EXPLORE AND REINFORCE MATHEMATICAL CONCEPTS. THE CONTENT FOR EACH COURSE IS INCLUDED IN THE COURSE DESCRIPTIONS. THE CURRICULUM IS ALIGNED TO THE MANCHESTER ACADEMIC STANDARDS AND COMPETENCIES. STUDENTS MUST EARN THREE CREDITS FROM THE COURSES BELOW, INCLUDING THE EQUIVALENT OF ALGEBRA I. THEY MUST ALSO BE ENGAGED IN A COURSE WHICH COVERS MATHEMATICS COMPETENCIES DURING THEIR FOURTH YEAR OF HIGH SCHOOL. THERE ARE MANY COURSES WHICH SATISFY THIS REQUIREMENT SUCH AS SCIENCE, ECONOMICS, TECH EDUCATION, BUSINESS, AND COMPUTER SCIENCE. THE MATHEMATICS CURRICULUM IS A CONTINUUM THROUGH WHICH ALL STUDENTS PROGRESS DURING THEIR FOUR YEARS. FOR THIS REASON, AFTER ALGEBRA I, THE ENTRY LEVEL COURSE, MOST COURSES HAVE PREREQUISITES.**

**MATH 1**  
**0601/0602**  
**1 CREDIT** (FND)  
**FULL YEAR**

This course is designed for students who need to build a stronger foundation in basic math skills prior to taking algebra. Topics include operations on rational numbers, ratio and proportion, percent, probability, introduction to basic geometry, properties of algebra and data analysis. Teacher recommendation is re-

quired. This course is the first in an integrated program of Math 1, Math 2, and Math 3, which fulfills the Algebra requirement for graduation. **PREPARATION FOR THIS COURSE:** Students should be able to perform basic operations on whole numbers and have beginning knowledge of fractions and decimals.

**MATH 2**  
**0603/0604**  
**1 CREDIT** (FND)  
**FULL YEAR**

This course is designed for students who need to build a stronger foundation in basic math skills prior to taking algebra. Teacher recommendation is required. Topics from Math I are extended to include operations on rational numbers, evaluating expressions, solving linear equations, introduction to functions, graphing linear functions, and selected applications in geometry. This course is the second in an integrated program of Math 1, Math 2, and Math 3, which fulfills the Algebra requirement for graduation. **PREPARATION FOR THIS COURSE:** Students should be able to perform basic operations on whole numbers, fractions and decimals, and have beginning knowledge of operations on integers, ratios and proportions, and problems involving percents.

**MATH 3**  
**0605/0606**  
**1 CREDIT** (FND)  
**FULL YEAR**

This course is designed for students who need to build a stronger foundation in basic math skills prior to taking algebra. Teacher recommendation is required. Topics include operations on rational numbers, evaluating expressions, solving linear equations, solving systems of linear equations, simplifying expressions containing exponents, operations on polynomial expressions, and selected applications in geometry. This course is the third in an integrated program of Math 1, Math 2, and Math 3, which fulfills the Algebra requirement for graduation. **PREPARATION FOR THIS COURSE:** Students should be able to perform operations on rational numbers, solve problems involving ratios and proportions, and solve problems involving percents.

**ALGEBRA 1A**  
**0629/0630**  
**1 CREDIT** (FND)  
**FULL YEAR**

The pacing in Algebra 1A allows for the reinforcement of basic skills while providing the foundations of algebra. Following Algebra 1A, students may progress to Algebra I or Algebra IB. The Algebra 1A and 1B sequence fulfills the algebra requirement for graduation. Topics include order of operations; operations on rational numbers; evaluating and simplifying expressions; data analysis; solving linear equations and inequalities in one variable; rates, ratios, and proportions; applications of percents; probability; graphing linear functions. Problem solving and critical thinking skills are incorporated throughout the course. **PREPARATION FOR THIS COURSE:** Students should be able to perform basic operations on rational numbers.

**ALGEBRA 1B**  
**0639/0640**  
**1 CREDIT** (FND)  
**FULL YEAR**

This course is the second of a two-year Algebra I program. The pacing allows for the reinforcement of basic skills while providing the foundation of algebra. The Algebra 1A and 1B sequence fulfills the algebra requirement for graduation. Topics include solving multi-step equations and inequalities in one variable; solving systems of equations; graphing inequalities in two variables; exponent rules; operations on polynomials; factoring polynomials; operations on irrational numbers; Pythagorean Theorem; Distance Formula; area, perimeter and volume. Problem solving and critical thinking skills are incorporated throughout the course. **PREPARATION FOR THIS COURSE:** Successful completion of Algebra 1A or the equivalent. Students should be able to perform operations on rational numbers, solve equations, and graph lines.

**ALGEBRA 1**  
**0663/0664**  
**1 CREDIT** (CCP)  
**FULL YEAR**

Algebra I is the foundation for all high school mathematics courses. Students will complete in-class assignments as well as homework on a daily basis. Problem solving and critical thinking skills are incorporated throughout the course. A calculator is rarely used in this course for calculations, but graphing calculator skills will be introduced. Topics include properties of the Real Number System, solving linear equations, inequalities, literal equations, quadratic equations, and systems of equations; graphing linear, quadratic functions, inequalities, and systems of inequalities; operations on polynomials, rational and irrational numbers. **PREPARATION FOR THIS COURSE:** Students should be able to perform operations on rational numbers without using a calculator.

**ALGEBRA 1**  
**0665/0666**  
**1 CREDIT** (ACP)  
**FULL YEAR**

Algebra I is the foundation for all high school mathematics courses. This course provides an in-depth, fast-paced approach to the concepts of algebra. Students will complete in-class assignments as well as homework on a daily basis. Problem solving and critical thinking skills are incorporated throughout the course. A calculator is not used for calculations, but the graphing calculator is incorporated throughout the course. Topics include properties of the Real Number System; solving linear equations, inequalities, literal equations, quadratic equations, and systems of equations; graphing linear and quadratic functions, inequalities, and systems of inequalities; operations on polynomials, rational and irrational numbers; and an introduction to functions and data analysis. **PREPARATION FOR THIS COURSE:** Students should be able to perform operations on rational numbers without using a calculator.

**ALGEBRA TOPICS**  
**0655/0656**  
**1 CREDIT** (FND)  
**FULL YEAR**

This course is designed for juniors and seniors interested in extending their foundation in algebra and preparing to take the Accuplacer assessment for post-secondary courses. This course extends the topics covered in Algebra 1A and Algebra 1B to include literal equations and formulas, function analysis, quadratic equations and functions; and rational and irrational expressions. Problem solving and critical thinking skills are incorporated throughout the course. **PREPARATION FOR THIS COURSE:** Completion of Algebra 1A, Algebra 1B, and Geometry, or may be taken concurrently with Geometry. Students should be able to solve linear equations, graph linear functions, and perform operations on polynomials

**GEOMETRY**  
**0681/0682**  
**1 CREDIT** (FND)  
**FULL YEAR**

This is an informal Geometry course that focuses on basic concepts. The pacing allows for the reinforcement of algebraic skills. A hands-on approach allows the students to understand the postulates, definitions, and theorems as they apply to the real-world. Deductive reasoning skills will be used throughout the course. Topics include congruent and similar triangles, quadrilaterals and polygons, parallelism, circles, coordinate geometry, right triangle trigonometry, area and volume. **PREPARATION FOR THIS COURSE:** Completion of Algebra 1A and Algebra 1B or the equivalent. Students should be able to solve linear equations, graph linear functions, and perform operations on polynomials

Nothing in this world can take the place of persistence. Talent will not: nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education will not: the world is full of educated derelicts. Persistence and determination alone are omnipotent.

—Calvin Coolidge



**GEOMETRY**  
**0683/0684**  
**1 CREDIT** **(CCP)**  
**FULL YEAR**

The course includes a study of plane, solid, and coordinate geometry and right triangle trigonometry. Constructions will be done throughout the course. Students will explore deductive reasoning through proofs. Problem solving skills and algebraic concepts are incorporated throughout the course. Topics include basic geometric terms and figures, triangles, quadrilaterals and other polygons, similarity, congruence, circles, perimeters, areas and volumes, coordinate geometry, right triangle trigonometry. This course is open to sophomores, juniors and seniors. **PREPARATION FOR THIS COURSE:** Successful completion of Algebra I or the equivalent, including solving linear equations, graphing linear functions, solving systems of equations, performing operations on polynomials, and performing operations on irrational numbers and expressions.



**GEOMETRY**  
**0685/0686**  
**1 CREDIT** **(ACP)**  
**FULL YEAR**

The course includes a study of plane, solid, and coordinate geometry and right triangle trigonometry, further enhanced through the application of algebraic concepts. Constructions are done throughout the course. Emphasis is placed on deductive reasoning and proofs. Problem solving and critical thinking skills are incorporated throughout the course. Topics include basic geometric terms and figures, triangles, quadrilaterals and other polygons, similarity, congruence, circles, perimeters, areas and volumes, coordinate geometry, right triangle trigonometry. **PREPARATION FOR THIS COURSE:** Successful completion of Algebra I or the equivalent, including solving linear equations, graphing linear functions, solving systems of equations, performing operations on polynomials, and performing operations on irrational numbers and expressions. Prerequisite for incoming freshmen: qualifying score on eighth grade Algebra placement assessment.

**GEOMETRY**  
**0687/0688**  
**1 CREDIT** **(HON)**  
**FULL YEAR**

The courses include a comprehensive study of plane, solid, and coordinate geometry, as well as right triangle trigonometry, further enhanced through the application of algebraic concepts. Constructions are done throughout the course. A major portion of the course is devoted to deductive reasoning and proofs. Problem solving, critical thinking skills and independent study are incorporated throughout the course. Topics include basic geometric terms and figures, triangles, quadrilaterals and other polygons, similarity, congruence, circles, perimeters, areas and volumes, coordinate geometry, right triangle trigonometry. **PREPARATION FOR THIS COURSE:** Successful completion of Algebra I or the equivalent. Students should be able to solve

linear equations, graph linear functions, solve systems of equations, perform operations on polynomials, and perform operations on irrational numbers and expressions. Prerequisite for incoming freshmen: qualifying score on eighth grade Algebra placement assessment.

**ALGEBRA 2 AND TRIGONOMETRY**  
**0703/0704**  
**1 CREDIT** **(CCP)**  
**FULL YEAR**

In Algebra II and Trigonometry, students extend their knowledge of non-linear functions and solving equations. Topics include solving absolute value, rational, exponential, radical, and rational equations; compound inequalities; systems of equations and inequalities; function analysis including compositions and inverses; operations on complex numbers; properties of quadratic, exponential, and logarithmic functions; as well as an introduction to trigonometric functions. Problem solving and critical thinking skills are incorporated throughout the course. A graphing calculator will be used in some units. This course prepares students for Finite Math or Introduction to Pre-Calculus. **PREPARATION FOR THIS COURSE:** Successful completion of Algebra I, or the equivalent, and Geometry. Students should be able to solve linear equations, graph linear functions, graph inequalities, solve systems of equations, perform operations on polynomials, and perform operations on irrational numbers and expressions.

**ADVANCED ALGEBRA 2 AND TRIGONOMETRY**  
**0705/0706**  
**1 CREDIT** **(ACP)**  
**FULL YEAR**

Advanced Algebra II and Trigonometry is a challenging, fast-paced course in which students extend their knowledge of non-linear functions and solving more complex equations. Topics include the complex number system; matrices; systems of equations and inequalities; conic sections; properties of quadratic, exponential, logarithmic, radical, and rational functions; as well as right triangle and analytic trigonometry. Graphing calculators are used extensively. Problem solving and critical thinking skills are incorporated throughout the course. Students are expected to clearly communicate their processes and solutions. This course prepares students for Pre-Calculus. **PREPARATION FOR THIS COURSE:** Successful completion of Algebra I, or the equivalent, and Geometry. Students should be able to solve linear and quadratic equations, graph linear functions, graph inequalities, solve systems of equations, perform operations on polynomials, and perform operations on irrational numbers and expressions.

**ADVANCED ALGEBRA 2 AND TRIGONOMETRY**  
**0707/0708**  
**1 CREDIT** **(HON)**  
**FULL YEAR**

Advanced Algebra II and Trigonometry is a rigorous, fast-paced course that analyzes topics in depth with a focus on application to real-world situations. Students extend their knowledge of functions and solving more complex equations. Topics include the complex number system; matrices; systems of equations and inequalities; conic sections; properties of quadratic, exponential, logarithmic, radical, and rational functions; as well as right triangle and analytic trigonometry. Problem solving, critical thinking skills and independent study are incorporated throughout the course. Students are expected to clearly communicate their processes and solutions. This course prepares students for Pre-Calculus. **PREPARATION FOR THIS COURSE:** Successful completion of Algebra I, or the equivalent, and Geometry. Students should be able to solve linear and quadratic equations, graph linear functions, graph inequalities, solve systems of equations, perform operations on polynomials, and perform operations on irrational numbers and expressions.

“Love is like mathematics. It adds happiness, reduces problems, multiplies fun, and divides tension.”



**INTRODUCTION TO PRE-CALCULUS**  
**0721/0722**  
**1 CREDIT** **(CCP)**  
**FULL YEAR**

This course reviews and extends concepts from Algebra II, and emphasizes additional topics in trigonometry to prepare students for college-level Pre-Calculus. Topics include applications and graphs of algebraic, exponential, logarithmic, and trigonometric functions. Prerequisite: successful completion of Algebra II and Geometry. **PREPARATION FOR THIS COURSE:** Successful completion of Advanced Algebra II and Trigonometry, and Geometry, or the equivalent. Students should be able to graph linear and nonlinear functions. Students should have a working knowledge of right triangle trigonometry and polynomial operations.

**PRE-CALCULUS**  
**0725/0726**  
**1 CREDIT** **(ACP)**  
**FULL YEAR**

This course prepares students for Calculus. Graphing calculators will be used throughout the course. Problem solving and critical thinking skills are incorporated throughout the course. Students are expected to clearly communicate their processes and solutions. Topics include analysis of polynomial, exponential, logarithmic, and trigonometric functions; sequences and series; and probability. College credit may be earned where available. **PREPARATION FOR THIS COURSE:** Successful completion of Advanced Algebra II and Trigonometry, and Geometry, or the equivalent. Students should be able to graph linear and nonlinear functions. Students should have a working knowledge of right triangle trigonometry and polynomial operations.

**PRE-CALCULUS**  
**0727/0728**  
**1 CREDIT** **(HON)**  
**FULL YEAR**

This course prepares students for AP Calculus. Graphing calculators will be used extensively throughout the course. Problem solving, critical thinking skills, and independent study are incorporated throughout the course. Students are expected to clearly communicate their processes and solutions. Topics include analysis of polynomial, exponential, logarithmic, and trigonometric functions; polar coordinates; statistics; probability; and an introduction to limits. College credit may be earned where available. **PREPARATION FOR THIS COURSE:** Successful completion of Advanced Algebra II and Trigonometry, and Geometry, or the equivalent. Students should be able to analyze linear and nonlinear functions. Students should have a working knowledge of right triangle trigonometry and polynomial operations.

One of the most amazing things about mathematics is the people who do math aren't usually interested in application, because mathematics itself is truly a beautiful art form. It's structures and patterns, and that's what we love, and that's what we get off on.  
—Danica McKellar





PERSONAL FINANCE

0729/0730

1 CREDIT

(FND)

FULL YEAR

The course includes a review of basic math and personal finance skills. The course is intended for seniors who have fulfilled the Algebra requirement for graduation and who wish to enroll in a fourth year of math. Students will solve problems throughout the course. Topics include gross and net income, recordkeeping, checking and savings accounts, credit cards, loans, insurance, and investments. PREPARATION FOR THIS COURSE Successful completion of Algebra I or the equivalent. Students should be able to perform operations on rational numbers, graph linear functions, and use formulas to solve problems.

PERSONAL FINANCE

0731/0732

1 CREDIT

(CCP)

FULL YEAR

The course includes personal finance skills as well as an introduction to business math. This course is intended for seniors who have fulfilled the Algebra requirement for graduation and wish to enroll in a fourth year of math. Topics include gross and net income, recordkeeping, checking and savings accounts, credit cards, loans, insurance, investments, personal business, produce-production, purchasing, sales, marketing, warehousing and distributing services, accounting, records, financial management, and corporate planning. Students will solve a variety of business-related problems throughout the course. PREPARATION FOR THIS COURSE Successful completion of Algebra I or the equivalent. Students should be able to perform operations on rational numbers, graph linear functions, and use formulas to solve problems



FINITE MATH

0733/0734

1 CREDIT

(CCP)

FULL YEAR

This course is designed to fulfill the college-level math requirement for those interested in pursuing a career outside of the STEM fields. Topics include linear systems, linear programming, probability, statistics, and finance. Students will investigate applications in the areas of social sciences. Problem solving and critical thinking skills are incorporated throughout the course. College credit may be earned where available. PREPARATION FOR THIS COURSE: Successful completion of Algebra II. Students should be able to perform operations on rational numbers, solve systems of linear equations, solve systems of linear inequalities, graph linear functions, and use formulas.

CALCULUS

0743/0744

1 CREDIT

(ACP)

FULL YEAR

This course is comparable to a first-year college-level course in Calculus. Topics include the concepts and skills of limits, derivatives, integrals, and the Fundamental Theorem of Calculus. Problem solving and critical thinking skills are incorporated throughout the course. College credits may be earned where available. PREPARATION FOR THIS COURSE Successful completion of Pre-Calculus with a thorough background in the properties and graphs of linear, polynomial, rational, logarithmic, trigonometric, inverse trigonometric and piece-wise defined functions.

AP CALCULUS

0747/0748

1 CREDIT

(HON)

FULL YEAR

This course is comparable to a first-year college-level course in Calculus. Students will learn to approach calculus concepts and problems graphically, numerically, analytically, and verbally and to make connections among these representations (College Board). College credit may be earned where available upon successful completion. AP Calculus AB covers topics in differential and integral calculus including concepts and skills of limits, derivatives, integrals, and the Fundamental Theorem of Calculus. Problem solving, critical thinking skills, and independent study are incorporated throughout the course. PREPARATION FOR THIS COURSE Successful completion of Pre-Calculus with a strong foundation working with algebraic structures and an extensive background in the properties and graphs of linear, polynomial, rational, logarithmic, trigonometric, inverse trigonometric and piece-wise defined functions.

AP STATISTICS

0717/0718

1 CREDIT

(HON)

FULL YEAR

The AP Statistics course is equivalent to a one-semester introductory non-calculus-based college course in statistics. The course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes in the AP Statistics course: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students use technology, investigations, problem solving, and writing as they build conceptual understanding. Students will be prepared for the AP exam. Running Start college credit may also be available upon successful completion. PREPARATION FOR THIS COURSE: Successful completion of Algebra I and Geometry. Students should be able to solve linear and quadratic equations, graph linear functions, graph inequalities, solve systems of equations, and use literal equations and formulas.

AP COMPUTER SCIENCE PRINCIPLES

0791/0792

1 CREDIT

(HON)

FULL YEAR

AP Computer Science Principles (AP CSP) can help you understand how computing and technology influence the world around you. Learn how to creatively address real-world issues while using the same tools and processes that artists, writers, computer scientists, and

engineers use to bring ideas to life. 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 and 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 computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world. (College Board) This course satisfies the state computer literacy requirement for high school graduation. PREPARATION FOR THIS COURSE: successful completion of Algebra I with a strong foundation on linear functions, composition of functions, and problem solving strategies. Students should be able to use a Cartesian coordinate system to represent points in a plane.

AP COMPUTER SCIENCE A

0797/0798

1 CREDIT

(HON)

FULL YEAR

AP Computer Science A is equivalent to a first-semester college-level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from small simple problems to large complex problems. The AP Computer Science course curriculum is compatible with many CS1 courses in colleges and universities. (College Board) This course satisfies the state computer literacy requirement for high school graduation. PREPARATION FOR THIS COURSE: Successful completion of Algebra I and current enrollment in Algebra II, with a strong foundation on linear functions, composition of functions, and problem solving strategies. Students should be able to use a Cartesian coordinate system to represent points in a plane.

MUSIC

INSTRUMENTAL INSTRUCTION 1

1301

.5 CREDIT

(CCP)

SEMESTER

Instrumental Instruction I offers class instruction for traditional school band or orchestra instruments. The class develops individual musicianship skills, technique, and music reading fluency. Students will complete the course with a basic level of proficiency on their instruments.

INSTRUMENTAL INSTRUCTION 2

1302

.5 CREDIT

(CCP)

SEMESTER

Instrumental Instruction II offers advanced class instruction for traditional school band or orchestra instruments. The class enhances individual musicianship skills, technique, and music reading fluency. It is expected that students will complete the course with the skills necessary to join the school band or orchestra. Prerequisites: Instrumental Instruction I

COLOR GUARD (CENTRAL AND WEST ONLY)

1303

.5 CREDIT

(CCP)

SEMESTER

This course instructs members on basic technique of flag work and dance routines associated with a color guard. Students are required to participate football games, and parades with the band. The course requires individual practice time. This course emphasizes musical concepts such as rhythm, form, and blend. This course will meet during the fall semester only.



**BAND**  
**1305/1306**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

Band is a performing group in which students study and perform standard band literature and new works. Marching band rehearsals consist of field practice for band performances at all football games and parades. Concert band plays at assemblies and civic functions and is responsible for three formal concerts a year. Students are required to participate in all of these activities. Prerequisite: Ability to read music and play scales is required.

**BAND**  
**1307/1308**  
**1 CREDIT**  
**(HON)**  
**FULL YEAR**

Band is a performing group in which students study and perform standard band literature and new works. Marching band rehearsals consist of field practice for band performances at all football games and parades. Concert band plays at assemblies and civic functions and is responsible for three formal concerts a year. Students are required to participate in all of these activities. Students will have additional performance requirements and experience a graduated complexity of advanced skill development. Prerequisites: Ability to play all major scales and advanced rhythms and sight read is required. Individual audition with instructor is necessary to participate.

**JAZZ ENSEMBLE**  
**1309/1310**  
**1 CREDIT**  
**(HON)**  
**FULL YEAR**

Jazz ensemble offers the advanced musician the opportunity to play musical styles such as rock, swing, blues, country, and jazz. Performances at dances, festivals, and other afterschool functions are required. Instrumentation will consist of bass and lead guitar, electric piano, drum set, trumpets, trombones and saxophones. Prerequisites: Individual audition with instructor is necessary to participate.

**ADVANCED INSTRUMENTAL/VOCAL STUDIES**  
**1311**  
**.5 CREDIT**  
**(HON)**  
**SEMESTER**

This course will provide students with the opportunity to learn to improvise jazz, be coached on All-State music, develop small ensembles, and continue more advanced studies on one's instrument. Each student will be expected to work with others and on his or her own. Prerequisites: Active participation in the vocal and instrumental program or permission of instructor required.

**ORCHESTRA**  
**1315/1316**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

Orchestra is open to students with prior education in Violin, Viola, Cello, or Double Bass. The course requires evening performances and practice time in your personal schedule. During this class we will develop our musical ability using scales, technique exercises, and ensemble playing.

**ORCHESTRA**  
**1317/1318**  
**1 CREDIT**  
**(HON)**  
**FULL YEAR**

Orchestra is open to students with prior education in Violin, Viola, Cello, or Double Bass. The course requires evening performances and practice time in your personal schedule. During this class we will develop our musical ability using scales, technique exercises, and ensemble playing. Students will have extra playing tests at a higher difficulty to show their ability. Students are required to audition with the Orchestra director to determine your placement in this class.

**CHOIR ENSEMBLE**  
**1319/1320**  
**1 CREDIT**  
**(CCP)**  
**FULL YEAR**

This choral ensemble is designed for students who are looking for a group singing experience at their home school. Any student who enjoys singing is encouraged to join. Choir Ensemble will emphasize proper rehearsal techniques, choral blend and balance, music reading, and diction. There are several concert performances throughout the school year. Previous successful school chorus experience or a very brief audition with the instructor is required.

**CONCERT CHOIR**  
**1325/1326**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

Concert Choir is devoted to the study and performance of music from Renaissance to contemporary. Much attention will be given to choral blend and balance, vocal production, diction, and reading standard music notation. Concert Choir will sing at concerts and school assemblies throughout the year. Prerequisite: An audition with and the consent of the instructor or the student's previous year's chorus instructor is required.

**CHAMBER CHOIR**  
**1327/1328**  
**1 CREDIT**  
**(HON)**  
**FULL YEAR**

The chamber choir ensemble performs choral literature of the highest caliber and difficulty from all musical eras and styles. Chamber Choir performs many times throughout the school year. Rehearsals emphasize vocal production, reading standard musical notation, blend, balance, and diction. Prerequisite: An audition with and the consent of the instructor is required.

**MUSIC APPRECIATION 1**  
**1337**  
**0.5 CREDIT**  
**(CCP)**  
**SEMESTER**

This course offers any student the opportunity to become involved with basic music fundamentals. Areas covered include music theory, the study of various instrument groups, meters, musical form, and the history of early world music. This course does not concentrate on rock or jazz music

**MUSIC APPRECIATION 2**  
**1336**  
**0.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This music history course will cover famous American composers of the 20th Century such as Charles Ives, Aaron Copland, George Gershwin, and Leonard Bernstein. A study of Broadway musicals and operas of the last 100 years will be included in the study of modern music. Active listening assignments will be a daily part of this course, and students will undertake independent studies of various musicians.

**HISTORY OF AMERICAN CONTEMPORARY MUSIC**  
**1340**  
**.5 CREDIT**  
**(CCP)**  
**SEMESTER**

This music history course is designed for the student who is curious about the roots and development of modern music. Styles will include, but not be limited to, rhythm and blues, spirituals, jazz, swing, bebop, folk, musical theater, rock and roll, and popular music of today.

**PIANO KEYBOARD**  
**1344**  
**.5 CREDIT**  
**(CCP)**  
**SEMESTER**

This semester course is designed for students who have never taken piano lessons and are truly beginners at the piano. The course will introduce concepts in standard musical notation (reading music), basic-level piano repertoire, and piano technique. There are no public performances associated with this course.

**BEGINNING GUITAR**  
**1345**  
**.5 CREDIT**  
**(CCP)**  
**SEMESTER**

This course is designed for students with no prior musical experience. Students will learn the fundamentals of playing the guitar. Students will learn both melody playing and chord accompaniment. Students will learn the basics of formal music notation, guitar tablature, and lead sheets.

**BEGINNING MUSIC THEORY**  
**1349**  
**.5 CREDIT**  
**(CCP)**  
**SEMESTER**

This course is designed to give the student a grounding in music and to be a prelude to additional music courses such as Advanced Music Theory. The course will introduce the student to the basic terminology and symbols of music, scales, key signatures, meter, and time signatures and give experience in ear training and melodic and rhythmic dictation. No prior music experience necessary.

**ADVANCED MUSIC THEORY**  
**1351**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This course will explore the writing of melodies, the study of counterpoint and develop an advanced knowledge of music theory. Basic arranging and composition skills will be combined with the use of music notation software. Also, students will study chords, chord progressions, voicing, and the harmonization of melodies. Also included will be a study of modes and a historical view of music theory. Consent of the teacher is advised. College credits may be earned where available.

## NJROTC PROGRAM (\*WEST)

**INTRODUCTION TO NAVAL SCIENCE**  
**1675/1676**  
**1 CREDIT**  
**(NCD)**  
**FULL YEAR**

Introduction to Naval Science is an exploratory course in which students are familiarized with NJROTC program as well as citizenship and the law, authority, and personal responsibilities. During this course there will be a heavy emphasis on self-discipline, motivation, responsible citizenship, and leadership development. Students will learn about American Military History and community service. Students who wish to continue in the NJROTC program may do so if they choose. Note: Standard Uniform Requirements waived.



“Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organizational objectives. It is the fuel that allows common people to attain uncommon results.

— Andrew Carnegie

“I think music in itself is healing. It’s an explosive expression of humanity. It’s something we are all touched by. No matter what culture we’re from, everyone loves music.”

Billy Joel



# NAVAL SCIENCE 1

1681/1682  
1 CREDIT

(NCD)  
FULL YEAR

Naval Science 1 is an introductory course in military drill, uniforms, military customs and courtesies. Students are introduced to the History of the NJROTC program as well as citizenship and the law, authority, and personal responsibilities. The basics of naval ships and aircraft are also presented. Students participate in physical training and military drill practice during this course and there will be a heavy emphasis on self-discipline, motivation, responsible citizenship, and leadership development. Students will learn how to incorporate leadership traits and principles in everyday activities. Field studies are planned and will relate to the classroom learning.

# NAVAL SCIENCE 2

1683/1684  
1 CREDIT

(NCD)  
FULL YEAR

Naval Science 2 introduces students to citizenship, meteorology, maritime geography, naval history, cold weather safety survival, military life, shipboard indoctrination, and seamanship. Leadership training covered in NS1 will be continued in this course. Field studies are planned and will relate to the classroom learning.

# NAVAL SCIENCE 3

1685/1686  
1 CREDIT

(NCD)  
FULL YEAR

Naval Science 3 introduces students to sea power, military justice, sea and land navigation, astronomy, geo-politics, career planning, naval history and conflicts, and political science. Advanced leadership and management methods and practical applications will continue to be included in coursework. Field studies are planned and will relate to the classroom learning.

# NAVAL SCIENCE 4

1687/1688  
1 CREDIT

(NCD)  
FULL YEAR

Prerequisite: Naval Science 1,2 and/or 3. Naval Science 4 is an advanced leadership and management practicum where various theories covered in the first three years of study are discussed and practiced. College/career application procedures are pursued, and senior students perform as a unit Command Group in a Leadership Laboratory environment demonstrating a culmination of leadership techniques learned in NS1, NS2, and NS3. Field studies are planned to relate to classroom learning.

# DRILL & MARKSMANSHIP

1689/1690  
1 CREDIT

(NCD)  
FULL YEAR

Prerequisite: NJROTC Cadet physically prepared/qualified to take this class and enrolled currently in Naval Science 1,2,3 or 4. The Drill portion of this class teaches the fundamentals of Military Drill (Marching) both unarmed and armed. Students perform at a variety of community events and participate in competitions. This class may be taken multiple times with increasing complexity and leadership requirements. The Marksmanship portion of this class teaches firearms safety and the fundamentals of the three firing positions using a pellet air rifle. Students will focus on basic visual acuity, concentration, breath control, and muscle control, target scoring, and equipment maintenance. In addition, they will participate in pellet rifle three-position matches during the school year. This class may be taken multiple times with increasing complexity and leadership requirements. NOTE: Cadets may take either section 1689 or 1690 as a semester course and are not required to take them as a full year class.

“Play by the rules, but be ferocious.”  
—Phil Knight

# NAVAL SCIENCE COMMAND GROUP

1691/1692  
1 CREDIT

(NCD)  
FULL YEAR

Naval Science Command Group is a capstone course in applied leadership. Students must be nominated to be in class. The NJROTC student/cadet leadership team plans and executes the NJROTC events for the year. This is a project based course. This course can take the place of Naval Science 4.

## PHYSICAL EDUCATION AND HEALTH

### PHYSICAL EDUCATION CREDIT VIA TEAM SPORTS

The Manchester School District recognizes that graduation requirements for high school diplomas can be met by awarding credit for participating in school affiliated sports subject to the following conditions:

- Students may be eligible for .5 Credit of physical education for participation in a school affiliated sport for two seasons or two different sports for one season.
- Students may earn a maximum of one (1) credit for participation in a school affiliated sport over the course of their high school careers.
- Pass/Fail credit toward the physical education requirement for graduation will be awarded.
- Graduation requirements met by participation in a school affiliated sport for physical education credit shall be clearly designated on student transcripts as “Team Sport Pass/Fail.” (Instruction 106.1 PHYSICAL EDUCATION CREDIT FOR SCHOOL AFFILIATED SPORTS)

### PHYSICAL EDUCATION

1380  
.5 CREDIT

(NCD)  
SEMESTER

This course will focus on lifelong fitness, sports, and activities.

### STRENGTH AND CONDITIONING

1386  
.5 CREDIT

(CCP)  
SEMESTER

This course combines strength training and physical fitness through a variety of activities which include the use of free weights, machines, and various cardiovascular fitness exercises. Prerequisite: Successful completion of Physical Education.

### RECREATIONAL BASKETBALL

1390  
1/2 CREDIT

(CCP)  
SEMESTER

This course will introduce the physical education student to basic skills, rules, drills, fitness, and game play. Prerequisite: Successful completion of Physical Education.

### WALKING FOR FITNESS

1395  
.5 CREDIT

(NCD)  
SEMESTER

This course will incorporate daily stretching and walking for approximately 30 minutes. Emphasis will be placed on cardiovascular improvement with the use of pedometers and by the students charting their target heart rates to maximize their overall physical fitness.

### HEALTH EDUCATION

1366  
.5 CREDIT

(ACP)  
SEMESTER

The purpose of this course is to help students achieve and maintain health and wellness throughout their lives. Instructional content will include, but is not limited to, substance abuse, nutrition and human growth and development, and communicable and noncommunicable diseases. Independent work and group projects assist student in understanding and application.

## SCIENCE

### PHYSICAL SCIENCE

0803/0804  
1 CREDIT

(CCP)  
FULL YEAR

This course covers introductory topics in chemistry and physics to include: properties of matter, atomic structure, compounds, reactions, motion, forces, energy, waves, sound and light. The course is designed to further math application and critical thinking skills by the use of the everyday application of physical laws. Hands-on activities are key to the implementation of this curriculum.

### PHYSICAL SCIENCE

0805/0806  
1 CREDIT

(ACP)  
FULL YEAR

This course covers introductory topics in chemistry and physics to include: properties of matter, atomic structure, compounds, reactions, motion, forces, energy, waves, sound and light. This course requires using critical thinking and problem solving skills to apply physical laws and concepts to understanding everyday situations. Algebra is used in developing an in depth understanding of the above concepts.

### PHYSICAL SCIENCE

0807/0808  
1 CREDIT

(HON)  
FULL YEAR

This course covers introductory topics in chemistry and physics to include: properties of matter, atomic structure, compounds, motion, forces, energy, waves, sound and light. This course requires in depth and thoughtful use of critical thinking and problem solving skills to apply physical laws and concepts to understanding current scientific concepts. A strong command of Algebra is necessary to be successful mastering these concepts.

### BIOLOGY

0823/0824  
1 CREDIT

(CCP)  
FULL YEAR

This course focuses upon the major components of biological structures and functions. Topics to include genetics, evolution, biodiversity and ecology. Hands-on investigations will play a significant role in the implementation of this curriculum. Focus is on developing and applying critical thinking and analytic skills.

### BIOLOGY

0825/0826  
1 CREDIT

(ACP)  
FULL YEAR

This course expands on the major concepts of biological structures and functions. Topics include genetics, evolution, biodiversity, ecology and investigation. Students will participate in hands-on activities, conduct a significant amount of lab work and apply critical thinking and analytic skills.

### BIOLOGY

0827/0828  
1 CREDIT

(HON)  
FULL YEAR

This course expands on the major concepts of biological structures and functions. Topics include; genetics, evolution, biodiversity, ecology and investigation. Students will carry out a significant amount of lab work that consists of detailed analysis and synthesis. Algebra skills and statistical analysis will necessary to apply content knowledge and advanced problem solving.

### ENVIRONMENTAL SCIENCE

0955/0956  
1 CREDIT

(ACP)  
FULL YEAR

This course emphasizes the interaction between living things and their environment and will focus on global change, biodiversity, and sustainability. This will be done through exploration of the concepts of communities, ecosystems, and human impact on the environment. This course provides students with the opportunity to understand the environment, its structure and functions, working mechanisms, and their ultimate impact on the individual. Prerequisite: Successful Completion of Biology 1.



**AP BIOLOGY**  
0881/0882  
1 CREDIT (HON)  
FULL YEAR

This course is designed to be the equivalent of a college introductory biology course by following the Advanced Placement syllabus. The topics are four general areas: evolution, biological system interactions, energy and matter processing, and transmission of genetic information. Prerequisites: Successful completion of Biology 1 and successful completion of or concurrent enrollment in Chemistry. College credits may be earned where available.

**APPLIED CHEMISTRY**  
0843/0844  
1 CREDIT (CCP)  
FULL YEAR

Course topics include atomic structure, the periodic table, chemical bonding, chemical reactions, and stoichiometry. Students will develop their skills in a laboratory setting. Students must be enrolled in a math course while taking chemistry. Prerequisites: Successful completion of Physical Science and concurrent enrollment in Algebra 2 or higher.

**CHEMISTRY**  
0855/0856  
1 CREDIT (ACP)  
FULL YEAR

This course covers theoretical and laboratory skills for a student to prepare for a four-year college with a concentration in science. Topics include structure of matter, atomic structure, chemical composition, equations, stoichiometry, periodic law, bonding, acid-base theory, oxidation and reduction, and electrochemistry. Prerequisites: Successful completion of Physical Science, or permission of instructor, and concurrent enrollment in Algebra 2 or higher.

**CHEMISTRY**  
0849/0850  
1 CREDIT (HON)  
FULL YEAR

Students will engage in advanced topics that include structure of matter, atomic structure, chemical composition, equations, stoichiometry, periodic law, bonding, acid-base theory, nuclear chemistry, organic chemistry, oxidation and reduction, and electrochemistry. Emphasis will be placed on advanced mathematical relationships of chemical reactions. Prerequisites: Successful completion of Physical Science, or permission of instructor, and concurrent enrollment in Algebra 2 or higher.

**AP CHEMISTRY**  
0907/0908  
1 CREDIT (HON)  
FULL YEAR

The AP Chemistry course provides students with a foundation to support future advanced coursework in chemistry. Through inquiry-based learning, students develop critical thinking and reasoning skills. Students cultivate their understanding of chemistry and science practices as they explore topics such as atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, electrochemistry and equilibrium. Prerequisites: Successful completion of first year Chemistry and Algebra 2. College credits may be earned where available.

**APPLIED PHYSICS**  
0863/0864  
1 CREDIT (CCP)  
FULL YEAR

Applied Physics and Engineering is designed for students who desire to explore physics and engineering in a hands-on interactive manner. This course explores major topics in physics such as motion, forces, energy, and electricity as well as topics in engineering like simple machines, electronics, and coding. Although projects may vary from year-to-year, an example could be a Rube Goldberg machine that utilizes topics like energy, simple machines, electronics, and computer programming. This course will prepare students for further study in engineering, computer science/programming, advanced manufacturing, and many other STEM fields at all levels. Prerequisite: Successful completion of Physical Science and Algebra 1.

**PHYSICS**  
0869/0870  
1 CREDIT (ACP)  
FULL YEAR

This course will concentrate on the study of mechanics, motion, vectors, forces, energy, momentum, waves, sound, light and optics, electricity and magnetism, and modern physics. The main focus of the course will be the application of knowledge of physics and mathematics to problem solving. Laboratory work will further reinforce the student's ability to apply the principles of physics. Prerequisites: successful completion of or concurrent enrollment in Algebra 2

**AP PHYSICS**  
0875/0876  
1 CREDIT (HON)  
FULL YEAR

This course is intended for accelerated students who wish to prepare for the Advanced Placement Physics 1 Examination. The basic ideas of calculus may be introduced in connection with physical concepts. Understanding the basic principles involved and the ability to apply these principles in the solution of problems is a major goal of the course. Topics covered in class and through independent study include Newtonian mechanics, work and energy, electrostatics, circuits, waves, and sound. Prerequisite: Successful completion of Algebra 2. College credits may be earned where available.

**ANATOMY & PHYSIOLOGY**  
0901/0902  
1 CREDIT (ACP)  
FULL YEAR

Major topics covered are physiology, histology, anatomical terminology, and interrelationships of organ systems within an organism. The systems of the human body will be covered in depth. Labs range from microscope slide work to a complete mammalian dissection. This course utilizes college textbooks and college-level laboratory activities for instruction. Prerequisites: Successful completion of Biology 1 and successful completion of or concurrent enrollment in Chemistry. College credits may be earned where available.

**HUMAN ANATOMY**  
0894  
.5 CREDIT (ACP)  
SEMESTER

Human Anatomy is specifically designed for students who plan to enter a medical or health-related field. Students will be expected to learn aspects of the human body, including systems, organs, and tissues. This course, by nature, will require students to accomplish considerable amounts of memory work. Prerequisite: Successful completion of Biology 1.

**EARTH SCIENCE**  
0913  
.5 CREDIT (CCP)  
SEMESTER

This course includes topics related, but not limited to Geology, Oceanography, Astronomy, and Meteorology. Some topics include the composition of the Earth and its materials, its structure, its processes, how they have changed over time, and how the moon, sun, and Earth interact with one another. Focus is on using data to better understand what role we, as a society, play in climate change and how we interact with our environment.

**EARTH SCIENCE**  
0915  
.5 CREDIT (ACP)  
SEMESTER

This course includes topics related, but not limited to Geology, Oceanography, Astronomy, and Meteorology. Some topics include the composition of the Earth and its materials, its structure, its processes, how they have changed over time, and how the moon, sun, and Earth interact with one another. Focus is on analyzing and interpreting data to better understand what role we, as a society, play in climate change and how we interact with our environment.

**ASTRONOMY & SPACE**  
0925/0926  
1 CREDIT (ACP)  
FULL YEAR

This course studies several major concepts: the history of astronomy, our solar system and its contents, our sun and other stars, the Milky Way, galaxies, and the universe. There is an emphasis on recent data and interpretation, and NASA materials and computer simulations will be used.

**BIOTECHNOLOGY & GENETICS**  
0935/0936  
1 CREDIT (ACP)  
FULL YEAR

Students selecting this level of biotechnology will learn about cellular biology, stem cell research and cloning, classical and advanced genetics, molecular biology and DNA informatics, and bioethics. Students will spend about 35% of the time doing elaborate laboratory experiments and research projects practicing techniques used in industry. Successful completion of Biology 1 and Chemistry is highly recommended. Prerequisite: Successful completion of Biology 1 and Concurrent enrollment or successful Completion of Chemistry.

**FIRST AID**  
0984  
.5 CREDIT (CCP)  
SEMESTER

In First Aid, students will be introduced to the anatomical structures of the human body. Individuals taking this course will be provided with the knowledge and skills necessary to sustain life and minimize the consequences of injury or sudden illness until advanced medical care arrives. Topics include CPR, poisoning, shock, burns, open and closed wounds, and bandaging techniques. Certification through American Heart Association in CPR with AED and First Aid is an option, if available.





SOCIAL STUDIES

STUDENTS WILL TAKE THE FOLLOWING COURSE LOAD IN THE DEPARTMENT OF SOCIAL STUDIES THROUGH THEIR FOUR YEAR HIGH SCHOOL CAREERS:

- 0.5 CREDIT OF AMERICAN CIVICS
  - 1.0 CREDIT OF WORLD HISTORY/WORLD GEOGRAPHY
  - 1.0 CREDIT OF UNITED STATES HISTORY
  - 0.5 CREDIT OF ECONOMICS
- (NOTE:THE MSD REQUIRES 2.5 CREDITS IN SOCIAL STUDIES CURRENTLY: 0.5 CREDITS IN AMERICAN CIVICS, WORLD HISTORY/GEOGRAPHY, AND ECONOMICS, AND 1.0 CREDIT OF UNITED STATES HISTORY)

**AMERICAN CIVICS**  
**0414**  
**.5 CREDIT**  
**(CCP)**  
**SEMESTER**

This course emphasizes reading and writing skills in the citizenship context and includes the study of the Constitution, the election process, and the three major branches of government: legislative, executive, and judicial. State, county, and local governments, as well as current events, are discussed throughout the course and will be explored through the study of national and international events. Emphasis is placed upon the rights and responsibilities of being a citizen of the community, the US Constitution and the three branches of government. Students taking this course will develop their reading and note-taking skills while working towards more independent work and study.

**AMERICAN CIVICS**  
**0416**  
**.5 CREDIT**  
**(ACP)**  
**SEMESTER**

This accelerated course uses a variety of primary and secondary sources regarding government, and students should be able to write effectively in the citizenship context. The course includes the study of the Constitution, the election process, and the three major branches of government: legislative, executive, and judicial. State, county, and local governments, as well as current events, are discussed throughout the course and will be explored through the study of national and international events. Emphasis is placed upon the structure and meaning of the US Constitution, the responsibilities of being a citizen of the community, and the powers and duties of the three branches of government.

**AMERICAN CIVICS**  
**0418**  
**.5 CREDIT**  
**(HON)**  
**SEMESTER**

This comprehensive freshman honors course examines our system of government on the national, state, county, and local levels. Students should be able to comprehend and analyze constitutional concepts and the workings of government. The course also focuses on contemporary national and international politics, including New Hampshire's political impact. Students taking this course should have a record of demonstrating exceptional academic ability, creativity, and task performance. Essay exams and in-depth papers will be required.

**WORLD HISTORY SURVEY**  
**0573/0574**  
**1 CREDIT**  
**(CCP)**  
**FULL YEAR**

Students will gain a global perspective necessary to function as effective citizens in a changing world. Students examine the development of culture within specific groups in order to understand why these groups function and behave as they do. Topics include cultures around the world. Students also have the chance to relate current events to subjects studied.

**WORLD HISTORY SURVEY**  
**0575/0576**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

Students will gain a global perspective necessary to function as effective citizens in a changing world. Students examine the development of culture within specific groups in order to understand why these groups function and behave as they do. Topics include cultures around the world. Students also have the chance to relate current events to subjects studied.

**WORLD HISTORY SURVEY**  
**0577/0578**  
**1 CREDIT**  
**(HON)**  
**FULL YEAR**

Honors World History is a class in which students cultivate their understanding of world history, with an emphasis on 1200 to 1800 CE, through analyzing historical sources, learning to make connections, and crafting historical arguments as they explore concepts like humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. Students who take this class should have strong reading, writing, and research skills and should be prepared to do extensive readings in both primary and secondary source documents.\*\*Students are required to complete a summer assignment.

**AP WORLD HISTORY**  
**0579/0580**  
**1 CREDIT**  
**(HON)**  
**FULL YEAR**

AP World History: Modern is an introductory college-level modern world history course. Students cultivate their understanding of world history, with an emphasis on 1200 CE to the present, through analyzing historical sources, learning to make connections, and crafting historical arguments as they explore concepts like humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. The course will prepare students to take the Advanced Placement exam in World History in May of the academic year. Students who take this class should have strong reading, writing, and research skills and should be prepared to do extensive readings in both primary and secondary source documents. \*\*Students are required to complete a summer assignment.

**WORLD GEOGRAPHY**  
**0563/0564**  
**1 CREDIT**  
**(CCP)**  
**FULL YEAR**

Students will study the world in terms of the 5 themes of Geography: Location, Place, Region, Movement and Human-Environment Interaction. They will gain cultural understanding of different peoples around the world as well as explore how cooperation and conflict between peoples has shaped the modern world. Students will also study global issues such as poverty, climate change, human rights, and globalization. The goal of this course is not only to give students an understanding of physical geography, but also human geography and their place in the world as a global citizen. In pursuing a contemporary understanding of World Geography, students will begin researching current topics and will be introduced to usage of proper research and citation techniques (MLA).



**WORLD GEOGRAPHY**  
**0567/0568**  
**1 CREDIT**  
**(ACP)**  
**FULL YEAR**

Students will study the world in terms of the 5 themes of Geography: Location, Place, Region, Movement and Human-Environment Interaction. They will gain cultural understanding of different peoples around the world as well as explore how cooperation and conflict between peoples has shaped the modern world. Students will also study global issues such as poverty, climate change, human rights, and globalization. The goal of this course is not only to give students an understanding of physical geography, but also human geography and their place in the world as a global citizen. In pursuing a contemporary understanding of World Geography, students will often be researching current topics and will be expected to use proper research and citation techniques (MLA).

**UNITED STATES HISTORY**  
**0443/0444**  
**1 CREDIT**  
**(CCP)**  
**FULL YEAR**

This course is designed to identify and examine major events and themes of United States history from the late 19th century to the present. Events and themes will be reviewed in a more advanced pace, delving deeper into issues surrounding the theme. Students will develop an appreciation for domestic issues as they arose through time and gain an understanding of how America's place in the global community has changed. As part of this course, students study issues and events in New Hampshire history.

**UNITED STATES HISTORY**  
**0445/0446**  
**1 CREDIT**  
**(COL)**  
**FULL YEAR**

This course is designed to identify and examine major events and themes of United States history from the late 19th century to the present at a more accelerated pace. Students will develop an appreciation for domestic issues as they arose through time and gain an understanding of how America's place in the global community has changed. As part of this course, students study issues and events in New Hampshire history. The student who selects the course should have a command of reading, writing, and research skills as the course will utilize a variety of primary and secondary sources and write an array of essays. College credits may be earned where available.

"99 percent of all statistics only tell 49 percent of the story" Ron DeLegge II





**AP UNITED STATES HISTORY**

**0449/0450**  
**1 CREDIT**

**(HON)**  
**FULL YEAR**

The Advanced Placement United States History course concentrates on the study of United States history from before the American Revolution to the present. Designed to challenge academically proficient students with a special interest in history, this course encourages students to explore events and issues in depth. Since requirements include extensive readings in primary and secondary sources, varied writing assignments, an oral history project, and an independent study project, students should have well developed reading and writing skills. Special attention is given to developing strategies and skills for taking the Advanced Placement exam in United States History in May of each academic year. In addition to covering material in the AP syllabus, students are assigned Free Response Essays and Document Based Questions (DBQ) throughout the year to familiarize them with the essay forms used in the exam. **\*\*Students are required to complete a summer assignment.**



**AMERICAN STUDIES - HISTORY**

**0457/0458**  
**2 CREDITS**

**(HON)**  
**FULL YEAR**  
**(MUST BE TAKEN CONCURRENTLY WITH 0259/0260)**

American Studies offers the unique experience of a team-taught course in high school. Geared to meet the need of the academically inclined student, the course combines American Literature and US History in order to properly and thoroughly examine the American character and those events, thoughts, and people who helped shape it from the age of exploration to the present. Students interested in taking the course should possess an excellent reading ability and a keen interest in developing public speaking skills. The course fulfills the requirement of US History and English 3. College credits may be earned where available. **\*\*Students are required to complete a summer assignment and this course is only open to JUNIORS.**

**ECONOMICS**

**0424**  
**.5 CREDIT**

**(CCP)**  
**SEMESTER**

The goals of this course are to assist students to function more effectively in today's economic world and to understand the free enterprise system. Included is an examination of economic principles and institutions. Emphasis is placed upon the development of skills in economic decision-making to allow students to understand their roles as consumers, producers, investors and voters. Students should have reading, writing, and research skills while being capable of independent work and study with some guidance. Learning takes place through various projects, some primary and secondary resources and class discussions.

**ECONOMICS**

**0426**  
**.5 CREDIT**

**(ACP)**  
**SEMESTER**

The goals of this course are to assist students to function more effectively in today's economic world and to understand the free enterprise system. Included is an examination of economic principles and institutions.

Emphasis is placed upon the development of skills in economic decision-making to allow students to understand their roles as consumers, producers, investors and voters. The student who selects the course should demonstrate pre-college level reading, writing, math skills and should be capable of independent work and recognizing economic relationships. Learning takes place through various projects, primary and secondary resources and class discussions.

**AP MACROECONOMICS**

**0436**  
**.5 CREDIT**

**(HON)**  
**FALL SEMESTER**

The AP Macroeconomics course emphasizes economic principles as applied to the economy as a whole. Lessons include an analysis of national income and its components, economics indicators, inflation and unemployment, money and banking, stabilization policies, and international trade. Various economic schools of thought are introduced as students consider solutions to economic problems. Special attention is given to developing strategies and skills for taking the Macroeconomic Advanced Placement exam. Learning takes place through various projects, in class experiments and research papers. Taken in the Senior year. College credits may be earned where available. **NOTE: CAN BE TAKEN AS A FULL YEAR with 0435 AP MICROECONOMICS.**

**AP MICROECONOMICS**

**0435**  
**.5 CREDIT**

**(HON)**  
**SPRING SEMESTER**

The AP Microeconomic course emphasizes economic principles concerning individual decision makers within the economy. The main areas of concentration include basic economic concepts, the nature and functions of product markets, factor markets efficient and the role government plays in our economy. Special attention is given to developing strategies and skills for taking the Microeconomic Advanced Placement exam. Learning takes place through various projects, in class experiments and research papers. Prerequisite is AP Macroeconomics. Taken in the Senior year. College credits may be earned where available. **NOTE: CAN BE TAKEN AS A FULL YEAR with 0436 AP MACROECONOMICS.**

**PSYCHOLOGY**

**0484**  
**.5 CREDIT**

**(CCP)**  
**SEMESTER**

Psychology is the study of human behavior and the mental processes. Students examine a variety of topics covering the wide scope of psychology. Course content includes brain and behavior development, learning, personality, psychological disorders and therapies, basic theories of motivation and emotion, and health psychology. Independent research is required and is to be presented in the prescribed format. **Note: Open to Juniors and Seniors only.**

**PSYCHOLOGY**

**0486**  
**.5 CREDIT**

**(ACP)**  
**SEMESTER**

Psychology is the study of human behavior and the mental processes. Students will examine a variety of topics covering the wide scope of psychology. Course content includes psychology's history and approaches, research methods, biological bases of behavior, sensation and perception, learning, personality, states of consciousness, human development, and cognition. Learning takes place through various projects, in-class experiments and research papers. The student who selects this course should be proficient at reading, writing and research skills and should be capable of independent work and study. **Note: Open to Juniors and Seniors only.**

**AP PSYCHOLOGY**

**0489/0490**  
**1 CREDIT**

**(HON)**  
**FULL YEAR**

The AP Psychology course is designed to introduce students to the systematic and scientific study of psychology. Topics for the first semester include psychology's history and approaches, research methods, biological

bases of behavior, sensation and perception, states of consciousness, learning, cognition and personality. The second half of the course focuses on motivation, emotion and stress, developmental psychology, testing and intelligence, abnormal behavior, treatment, and social psychology. Special attention is given to developing strategies and skills for taking the Psychology Advanced Placement exam in May of each academic year. In addition to covering material in the AP syllabus, students are assigned Free Response Questions throughout the year to familiarize them with the short answer forms used on the AP exam. Learning takes place through various projects, in-class experiments and research papers. **Note: Summer assignment required and this course is only open to SENIORS.**

**SOCIOLOGY**

**0504**  
**.5 CREDIT**

**(CCP)**  
**SEMESTER**

A variety of topics are offered to students selecting sociology. Subject areas considered are culture, values, norms and sanctions, social groups, stratification, minorities, the family, education and mass society. Students also examine American social issues, family matters, violence and crime, technology, and racism. Projects and cooperative learning activities are assigned to help students understand many issues and challenges affecting our society. Students should have reading, writing, and research skills while being capable of independent work and study with some guidance. Learning takes place through various projects, some primary and secondary resources and class discussions. **Note: Open to Juniors and Seniors only.**

**SOCIOLOGY**

**0506**  
**.5 CREDIT**

**(ACP)**  
**SEMESTER**

A variety of topics are offered to students selecting sociology. Subject areas considered are culture, values, norms and sanctions, social groups, stratification, minorities, the family, education and mass society. Students also examine American social issues, family matters, violence and crime, technology, and racism at an accelerated pace. Research projects, cooperative learning activities, and a variety of written assignments are assigned to help students understand the many issues affecting our society. The student who selects the course should have a command of reading, writing, and research skills as the course will utilize a variety of primary and secondary sources and an array of essays. **Note: Open to Juniors and Seniors only.**

**GLOBAL PERSPECTIVES: HISTORICAL APPROACH**

**0512**  
**.5 CREDIT**

**(CCP)**  
**SEMESTER**

Global Perspectives is an elective that continues to expand students' knowledge and skills. Classes will analyze and develop critical thinking and problem solving skills to understand 21st century issues. This specialized course will provide students with the opportunity to explore complicated historical and contemporary events and themes ranging from genocide and the Holocaust to conflicts from the Vietnam War to the Middle East today. Students will be expected to actively participate in all class activities, including guided research and analysis and directed class discussion. The purpose of the course is to have students become a better educated citizen ready to make the difficult choices facing the 21st century world.

Compassion is one of the few things we can practice that will bring immediate and long term happiness to our lives.  
—Dalai Lama





**GLOBAL PERSPECTIVES: HISTORICAL APPROACH**  
**0514** (ACP)  
**.5 CREDIT** SEMESTER

Global Perspectives is an elective that allows students to use both the knowledge and skills obtained previously. Classes will analyze and develop critical thinking and problem solving skills to understand 21st century issues at an accelerated pace. This specialized course will provide students with the opportunity to explore mature and complicated ethical, historical and contemporary events and themes ranging from genocide and the Holocaust to conflicts from the Vietnam War to the Middle East today. Students will be expected to actively participate in all independent and collaborative class activities, including research, written analysis, and discussion of all topics, with the goal of becoming better educated citizens ready to make the difficult choices facing the 21st century world.

**SPORTS & AMERICAN CULTURE**  
**0520** (ACP)  
**.5 CREDIT** SEMESTER

This course will examine the history of amateur and professional sports in the United States. The focus will be on the impact that sports have had on United States culture and society. Also examined, will be how major events in United States history may have affected the world of sports. Relationships between historical periods in sports and current behaviors and attitudes regarding sports will be examined. This course is open to juniors and seniors. Prerequisite: Successful completion of World History and/or US History

**CURRENT ISSUES**  
**0530** (ACP)  
**.5 CREDIT** SEMESTER

This course will offer students the opportunity to explore, analyze, interpret, and understand the significance of controversial issues in the modern world. Students will examine a number of real world issues from a variety of perspectives. Debate, discussion, and editorial commentary will allow students to present their own positions on a variety of issues.

**AP EUROPEAN HISTORY**  
**0539/0540** (HON)  
**1 CREDIT** FULL YEAR

AP European History is an entry-level college history course and will prepare students for the Advanced Placement exam. Europe from the Renaissance through the Age of Metternich is the focus of the first semester. The second semester spans the era from 1850 through the recent past, including Europe in a post-Cold War world. Students will develop critical thinking skills, appreciate the complexity of history, and be introduced to the international relationships which have developed among European nations and between Europe and the world. Students who take this class should have strong reading, writing, and research skills and should be prepared to do extensive readings in both primary and secondary source documents.\*\*Students are required to complete a summer assignment.

**CRIME & JUSTICE**  
**0584** (CCP)  
**0583** (ACP)  
**.5 CREDIT** SEMESTER

This course is designed to provide an overview of the criminal justice system. It will examine criminal behavior, criminal law, the police, forensic science, crime scene investigation, and selected issues in criminal justice.

**LAW**  
**0587** (ACP)  
**.5 CREDIT** SEMESTER

This course explores how America's legal system copes with moral ambiguity and controversial ethical questions. Major cases concerning administrative practices (affirmative action, privacy, sexual harassment) and basic issues (abortion, capital punishment, the right to die) are read and analyzed. Students evaluate these dilemmas and how they impact our society. Actual cases, student mock trials, and visits to and by lawyers and other professional people are important parts of this course.

**LAW**  
**0588** (HON)  
**.5 CREDIT** SEMESTER

Law and Ethics examines current social issues such as individual rights, discrimination, prejudice, family law, crime, prison conditions, juvenile justice and civil wrongs in tandem with how the law relates to these areas. Emphasis is placed on constitutional law with a study of laws relative to free speech, free press, freedom of association and assembly, freedom of religion, the right to privacy, privacy at school, due process and search and seizure matters. Students will examine and decide on various cases and are acquainted with the adversary system and participate in role playing and mock trials. Students are involved in various writing exercises. Court tours may be planned along with the utilization of community resource personnel who may serve as guest speakers. Students are required to write a law brief and orally argue the issue.

**AP AMERICAN GOVERNMENT & POLITICS**  
**0477/0478** (HON)  
**1 CREDIT** FULL YEAR

This year-long course follows the curriculum designed by the Advanced Placement advisors, and students are encouraged to take the AP Exam. This is a course for seniors designed to give the student a detailed look into our American government. The primary objectives of the course are to develop knowledge of our present-government (federal, state, local) and to promote an understanding of democratic ideas as applied to present problems. The course is designed to encourage an attitude of personal responsibility in support of the ideals of our democratic institutions. Sociological and economic concepts are included in the course, as well as an explanation and examination of our executive, legislative and judicial systems.

**TECHNOLOGY EDUCATION**

**KEYBOARDING**  
**(\*CENTRAL)** (NCD)  
**1403** SEMESTER  
**.5 CREDIT**

Keyboarding covers touch typing, proper posture, formatting skills, the use of proper grammar, punctuation, and proofreading skills. Students will learn proper finger placement and will develop their personal speed and accuracy skills through lessons, typing games, and timed typing assessments. Students will also learn to create a variety of documents with proper formatting for assignments and projects they may be required to complete while in school and in the future.

**INFORMATION & COMMUNICATION TECHNOLOGY**  
**1416** (CCP)  
**.5 CREDIT** SEMESTER

Students will be introduced to and learn word processing, spreadsheet and presentation softwares to be used in a variety of ways throughout their lives to solve a variety of life problems. Students will complete required projects to learn real-world skills to help them enhance their opportunities in future career prospects. Other areas that will be covered include digital citizenship and various other technology and cyber-related issues. College credits may be earned where available.

**INFORMATION & COMMUNICATION TECHNOLOGY**  
**1417** (ACP)  
**.5 CREDIT** SEMESTER

Students will work with word processing, spreadsheet, and presentation software on various platforms to complete real-world projects and activities designed to enhance skills and ability. Skills acquired throughout this course will benefit students with their academic and future career prospects. Students will be required to demonstrate true understanding of the skills they acquire through projects with greater depth and scope. Other areas that will be covered include digital citizenship, cloud based collaboration, and internet safety, as well as current and future technology trends. College credits may be earned where available.

**COMPUTER SCIENCE PRINCIPLES 1**  
**1405** (CCP)  
**.5 CREDIT** SEMESTER

CS Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. This course explores computer development techniques, computational thinking, troubleshooting, algorithm development and more. This course satisfies the state computer literacy requirement for high school graduation.

**COMPUTER SCIENCE PRINCIPLES 1**  
**1414** (ACP)  
**.5 CREDIT** SEMESTER

CS Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. This introduction to programming is a rigorous and engaging course that explores computer development techniques, computational thinking, troubleshooting, algorithm development and more. This course satisfies the state computer literacy requirement for high school graduation.

**COMPUTER SCIENCE PRINCIPLES 2**  
**1421** (ACP)  
**.5 CREDIT** SEMESTER

This course features an introduction to computer programming to develop interactive games, menu systems and animations. Students will also investigate, through analyzing big data, security concerns such as individual identity theft, mail and network hacking, virus attacks and defensive measures. In the final weeks, students will explore opportunities for future careers in technology. Students must have completed Computer Science Principles 1.

**WEB PAGE DESIGN (WEST ONLY)**  
**1660** (ACP)  
**.5 CREDIT** SEMESTER

This course is for students who wish to create their own websites. Students will learn basic web design languages and then design and build websites using Google sites & HTML. Students will work individually and cooperatively to create websites.



**INDUSTRIAL TECHNOLOGY**  
**1603** (CCP)  
**.5 CREDIT** SEMESTER

Wood, drafting, economic impacts, occupations, and consumer information will be studied. Students will learn safe and effective use of common machines and tools to produce products. Units in the selection and care of tools, fasteners, and other hardware will be covered. This course will acquaint students with measuring skills, lettering, and 2D and 3D drawings.

**HOME MAINTENANCE & REPAIR**  
**1606** (CCP)  
**.5 CREDIT** SEMESTER

This course is designed to teach the basic construction process, including foundations, framing, utilities installation and finish work. Subjects include construction materials, basic framing of floors, walls and roofs, siding and roofing, plumbing systems, electrical distribution system, and HVAC. You will have an opportunity to build a scale model framed house, wire breakers, switches, outlets and lights, build and repair copper and PVC plumbing systems, study the operation of modern heating and cooling systems and insulation, as well as interior and exterior wall finishing. Students will also learn furniture refinishing and repair.

**AUTOMOTIVE MAINTENANCE & REPAIR (CENTRAL ONLY)**  
**1608** (CCP)  
**.5 CREDIT** SEMESTER

This is a great opportunity for both girls and boys to learn the skills needed to safely and affordably keep your car well maintained and how to fix it if necessary. This course is NOT designed for the mechanic, but for every person who drives a car and wants to know more about how it works. Students will learn how the many different systems of a vehicle work to keep us on the road, and what regular maintenance is required to prevent breakdowns. Subjects include oil changes, cooling systems, brakes, fuel and ignition systems, wheels and tires, transmissions, steering and suspensions and electronic engine controls. Juniors and Seniors only. Students must have a valid driver's license and a vehicle to work on.



**WOODWORKING 1**  
**1611 OR 1611/1612 (FULL YEAR MEMORIAL ONLY)** (CCP)  
**.5 CREDIT** SEMESTER

This course teaches students the fundamentals of woodworking by planning and building several wood projects. You will learn proper measuring and layout techniques, correct use of hand tools and the safe operation of most major woodworking power tools and machines. Good craftsmanship techniques such as assembly, sanding and finishing are employed on every project. Each student will complete 5 projects during the semester. Open to all grade levels.

**WOODWORKING 2**  
**1613** (CCP)  
**.5 CREDIT** SEMESTER

In this course students will learn how to design and build custom furniture. You will learn how to draw up plans, design a bill of materials and procedure sheet, select proper type and grade of lumber, make cabinet joints and use a variety of construction methods, mill-work and custom finishing techniques. Prerequisite: Successful completion of Woodworking 1.

**DRAFTING (\*WEST)**  
**1624** (CCP)  
**.5 CREDIT** SEMESTER

This course will develop the basic necessary skills of board work, tools, and concepts as a prerequisite for Engineering Drawing and Principles of Engineering. Topics include mechanical, architectural, and computer-aided drafting (CADD).

**ENGINEERING DRAWING (\*WEST)**  
**1632** (ACP)  
**.5 CREDIT** SEMESTER

This course is for students interested in engineering and related technical fields. Topics to be covered include geometric constructions, orthographic projections, sectional views, pictorial drawings, and computer-aided design and drafting (CADD). Individual and group work will be emphasized. Prerequisite: Successful Completion of Algebra I

**PRINCIPLES OF ENGINEERING**  
**1669/1670** (ACP)  
**1 CREDIT** FULL YEAR

Ever want to build an underwater robot, program your own mobile app, or build a mechatronic Rube Goldberg machine through hands-on project based learning? This course will cover foundational topics in programming, electronics, 3D modelling/CAD, and robotics while integrating math and physics concepts throughout. This course will prepare students for further study in engineering, computer science/programming, advanced manufacturing, and many other STEM fields at all levels.

## WORLD LANGUAGE

### FRENCH

**FRENCH 1**  
**1005/1006** (ACP)  
**1 CREDIT** FULL YEAR

This is a beginning course for students who have no knowledge of French. Students will work to attain proficiency on the four skills of listening, speaking, reading, and writing. Students will learn basic vocabulary and grammatical structures as well as basic pronunciation. This course also includes study of typical customs and geography of the French-speaking world. As the course progresses, students are expected to apply and demonstrate their skills on a daily basis.

**FRENCH 2**  
**1015/1016** (ACP)  
**1 CREDIT** FULL YEAR

This course is designed to increase the student's proficiency in French. Students will strengthen their abilities in the four skills of reading, writing, speaking, and listening. The course also will include study of the customs, geography, and history of Francophone countries. This course builds on previously acquired knowledge from French 1. Prerequisite: Successful completion of French 1.

Language exerts hidden power, like the moon on the tides.  
—Rita Mae Brown

**FRENCH 3**  
**1025/1026** (ACP)  
**1027/1028** (HON)  
**1 CREDIT** FULL YEAR

This course is designed to further students' abilities in the four areas of language study: speaking, listening, reading, and writing. More emphasis is placed on the use of the target language. Students will continue to expand their vocabulary and knowledge of more complex grammatical structures. This course will also explore the customs, geography, and history of the Francophone world. Students who study French at this level will be expected to be creative and to use the language more independently. Prerequisite: Successful completion of French 2.

**FRENCH 4**  
**1035/1036** (ACP)  
**1037/1038** (HON)  
**1 CREDIT** FULL YEAR

This course is designed to reinforce reading, writing, listening, and especially speaking skills. Most coursework is conducted in French. Students will learn essential vocabulary needed to develop communicative skills in everyday situations, for example, vocabulary related to foods, restaurants, and airplane travel, in the target language. There will be revision of grammatical concepts incorporated into the thematic units. Students will develop their skills in reading, writing, and speaking in French. Students who study French at this level will be expected to be creative and to use the language more independently. Prerequisite: Successful completion of French 3.

**FRENCH 5**  
**1047/1048** (HON)  
**1 CREDIT** FULL YEAR

This course is for students who wish to broaden their knowledge of the French language and culture. This course requires well-developed conversational, listening comprehension, reading, and writing skills. Students will research the Internet to develop an awareness of current events in all Francophone countries. Students will review major grammatical points and are expected to participate in discussions and write brief essays on a regular basis. During the second semester, a research paper and oral presentation are required. This course is conducted primarily in French. Prerequisite: Successful completion of French 4.

### GERMAN (\*MEMORIAL)

**GERMAN 1**  
**1065/1066** (ACP)  
**1 CREDIT** FULL YEAR

Students in this course will become familiar with the sounds and patterns of the German language through a variety of interactive methods, such as singing, playing games, storytelling, and role-playing. Students will build a vocabulary of essential words and phrases. They will also learn about the geography, history, and culture of the German-speaking lands and other European Union countries. Learning experiences will be enriched by contact with our exchange partners in Neustadt an der Weinstrasse, Germany.

**GERMAN 2**  
**1075/1076** (ACP)  
**1 CREDIT** FULL YEAR

Students will expand the basic vocabulary acquired in the first year, using a variety of communicative and interactive methods. Students will practice conducting routine daily activities and exchanges and will also develop their proficiency in reading and writing German. Learning about the culture of the German-speaking peoples and of people of other European countries will also be emphasized. As in all German courses, all experiences will be enriched by our partnership with the Käthe-Kollwitz-Gymnasium in Neustadt an der Weinstrasse, Germany. Prerequisite: Successful completion of German 1.



**GERMAN 3**  
**1085/1086**  
**1 CREDIT**

(ACP)  
FULL YEAR

Students in this course will continue to practice listening, speaking, reading, and writing German. They will study German grammar in greater depth and continue learning about culture, history, and geography through reading German texts. Interactions with our partners in Neustadt are even more rewarding for students at this level. Prerequisite: Successful completion of German 2.

**GERMAN 4**  
**1095/1096**  
**1 CREDIT**

(ACP)  
FULL YEAR

German is the sole language of communication in the classroom. Students are given the opportunity to use all four language skills. The use of idiomatic German and fluency of conversation will be enriched through a variety of texts. Analysis and comparison of characters and situations in the readings will be expected. Students will be required to journal in German in the second semester. Written and oral presentations will also be required. Prerequisite: Successful completion of German 3.

**LATIN (\*MEMORIAL & CENTRAL)**

**LATIN 1**  
**1105/1106**  
**1 CREDIT**

(ACP)  
FULL YEAR

This course introduces the basics of Latin vocabulary and grammar. While studying the influences of the Latin language and Roman culture on our society, students will gain a stronger use of the English language essential for SAT preparation. Latin study also includes mythology, Roman customs, and early Roman history.



**LATIN 2**  
**1115/1116**  
**1 CREDIT**

(ACP)  
FULL YEAR

There is a strong emphasis on Latin and Greek word origins specifically designed for SAT preparation. New grammatical forms and elements of style will be introduced. Also included will be the history of other ancient world rulers such as Alexander the Great and Cleopatra. Prerequisite: Successful completion of Latin 1.

**LATIN 3**  
**1125/1126**  
**1131/1132**  
**1 CREDIT**

(ACP)  
(HON)  
FULL YEAR

Students will translate and discuss various sections of Caesar's Gallic Wars and works by Roman authors (Cicero, Livy, and Sallust) and become familiar with prominent historical characters and events of the late Republic and early Empire, particularly as related to government, magistrates, and religion. Prerequisite: Successful completion of Latin 2.

**LATIN 4**  
**1129/1130**  
**1 CREDIT**

(ACP)  
FULL YEAR

Latin 4 introduces students to the intricacies of Latin poetry in the works of Ovid. Students will learn poetic devices, usage, and vocabulary as a basis for the reading of Rome's major epic, Vergil's Aeneid. Focusing upon Books I, II, IV, and VI and the study of the dactylic hexameter, students will gain an appreciation for both poetry and the legends of Rome. If time permits, students will also read works of other Roman poets, such as Horace and Catullus, as well as secular medieval writers. Prerequisite: Successful completion of Latin 3.

**AP LATIN**  
**1127/1128**  
**1 CREDIT**

(HON)  
FULL YEAR

Students will become familiar with pertinent Roman cultural, social, and political history and study the ancient epic as a literary genre. Parallels between the Aeneid and Homer's Iliad and Odyssey will be discussed. Students will read, translate, understand, analyze, and interpret the required lines listed on the AP Vergil syllabus. Prerequisite: Successful completion of Latin 4.

**SPANISH**

**SPANISH 1**  
**1145/1146**  
**1 CREDIT**

(ACP)  
FULL YEAR

This is an accelerated-paced introductory course of the Spanish language. Students will work to attain proficiency in the four skills of listening, speaking, reading, and writing. Students will learn basic vocab, and grammatical structures, as well as basic pronunciation. This course also includes the study of typical costumes, and geography of the Spanish-speaking world. As the course progresses students are expected to apply and demonstrate their skills on a daily basis.

**SPANISH 2**  
**1155/1156**  
**FULL YEAR**

(ACP)  
1 CREDIT

This is an accelerated-paced, intermediate course of the Spanish language. Strong basic language skills are required for success in this course. The course is designed to increase the students proficiency in Spanish. Students will strengthen their abilities in the four skills of reading, writing, speaking, and listening. This course also will include study of the customs, geography, and history of Spanish-speaking countries. This course builds on previously acquired knowledge from Spanish 1. Prerequisite: Successful completion of Spanish 1.

"To have another language is to possess a second soul."  
Charlemagne

**SPANISH 3**  
**1165/1166**  
**1167/1168**  
**1 CREDIT**

(ACP)  
(HON)  
FULL YEAR

This course is designed to further students' abilities in the four areas of language study: speaking, listening, reading, and writing. More emphasis is placed on the use of the target language. Students will continue to expand their vocabulary and knowledge of more complex grammatical structures. This course will also explore the customs, geography and history of the Spanish-speaking world. Students who study Spanish at this level will be expected to be creative and to use the language more independently. Prerequisite: Successful completion of Spanish 2. College credits may be earned if available.

**SPANISH 4**  
**1175/1176**  
**1177/1178**  
**CREDIT**

(ACP)  
(HON)  
FULL YEAR

This course for students who wish to broaden their knowledge of the Spanish language and culture. Spanish is spoken by the teacher and the students unless it is impractical and impedes student understanding. A variety of cultural topics of the Spanish-speaking world are studied. Oral presentations are also required. Prerequisite: Successful completion of Spanish 3. College credit may be earned if available.

**SPANISH 5**  
**1185/1186**  
**1 CREDIT**

(ACP)  
FULL YEAR

This course requires well-developed conversational, listening comprehension, reading, and writing skills. The course will cover culture, literature, history, philosophy, and current events in some detail through a variety of sources and major authors from the Spanish-speaking world. Students review major grammatical points and are expected to participate in discussions and write brief essays on a regular basis. During the second semester, a research paper and oral presentation are required. This course is conducted primarily in Spanish. Prerequisite: Successful completion of Spanish 4.

**SPANISH 5**  
**1187/1188**  
**1 CREDIT**

(HON)  
FULL YEAR

This course is for students who wish to broaden their knowledge of the Spanish language and culture. This course requires well-developed conversational, listening comprehension, reading, and writing skills. Students will research the Internet to develop an awareness of current events in all Spanish-speaking countries. Students review major grammatical points and are expected to participate in discussions and write brief essays on a regular basis. During the second semester, a research paper and oral presentation are required. This course is conducted primarily in Spanish. Prerequisite: Successful completion of Spanish 4.





AMERICAN SIGN LANGUAGE (\*MEMORIAL)

AMERICAN SIGN LANGUAGE		
1191/1192	1ST YEAR	(COL)
1193/1194	2ND YEAR	(CCP)
1195/1196	3RD YEAR	(CCP)
1197/1198	4TH YEAR	(CCP)

1 CREDIT FULL YEAR

In the first year this course will be an introduction to American Sign Language (ASL) and Deaf Culture. ASL is the language used by the Deaf and hard of hearing people. The emphasis is on learning to develop expressive and receptive signing skills. Students will develop a basic vocabulary related to everyday life. They will learn about the culture of the Deaf Community, its values and accomplishments. Running Start College Credit may be available upon successful completion of the course. Some colleges may not recognize ASL as a World Language Course. Students should see their counselor for details. In the second, third and fourth years, students continue to refine their expressive and receptive language skills and building on their knowledge acquired in this course. Students will develop mastery of even more complex and complicated ASL features of spatial referencing, classifier usage, verb inflections and role shifting all in an effort to gather meaning from movement, which continues to expand their vocabulary.



WEST HIGH SCHOOL STEAM

is a contextual curriculum where the subjects are coordinated with each other under a project and inquiry-based educational structure. Science, technology, engineering, mathematics and the broad spectrum of the arts all relate to one another in reality. STEAM students are given the opportunity to better learn academic and life skills in a standards-backed, realistic-based, personally relevant exploratory learning environment. It delivers high quality team-based education to all students. Preparing students for a growing variety of careers is important to advance the global society and economies. Students evaluate needs, wants and opportunities in order to be informed users, responders and innovators. It prepares students to be life-long learners who live well-balanced, whether they pursue college, a skilled trade, or potentially unknown career path.

Imagine a classroom where students can take a problem that is facing the world and solve it! In a STEAM classroom students will have the opportunity to obtain 21st Century Skills:

Students will be able to reason effectively, planning decisions as they analyze implications of those decisions. This will lead to the analysis and evaluation of evidence, claims or beliefs in order to draw conclusions that will solve problems by identifying various points of view to find the best solution.

Students will be able to articulate thoughts and ideas effectively using oral, written and nonverbal communication skills. In addition, they will be able to actively listen to decipher meaning

and intent in order to communicate for a range of purposes (to inform, instruct, motivate and persuade).

Students will be able to work efficiently and respectfully with diverse groups of people, demonstrating flexibility and the ability to compromise towards completion of a common goal. This will produce an innate sense of shared responsibility and the ability to value the contributions made by others.

Perhaps most importantly, students will be able to use content knowledge to create new and worthwhile ideas and solutions to problems in the real world. For a complete list of course descriptions, please visit [west.mansd.org](http://west.mansd.org)

WEST HIGH SCHOOL THEATRE ARTS PROGRAM

The classes listed below make up the theatre performing art course of study at West High School. It satisfies the fine and performing art credit required by the State of New Hampshire for graduation. The goal of these courses is to instill an understanding of and appreciation for the theatre arts. Students learn how to find, view, discuss, create and perform art in the theatre. Students who wish to pursue a serious study in theatre should seek the input of faculty for appropriate and meaningful placement.

- THEATRE 1 (0385/0386) ACP
- THEATRE 2 (0387/0388) ACP
- THEATRE 3 (0389/0390) ACP
- THEATRE 4 (0391/0392) ACP

Note: Student selects the appropriate theatre course based on years of experience.

College Prep. Full Year, 1 credit.

These courses provide an introduction to theatre with an emphasis on progression in practicing technical skills and performance. It covers the basic elements of theatre, including acting, stage movement, set and costume design, makeup, lighting, and theatre history, with an integration into a final production. Various activities, projects, and exercises will provide new skills, as well as practice for old ones. Students will focus on acting methods and techniques as they select, design, rehearse, and produce a play for performance before an audience (this may require student field trips during the day). Students will be evaluated according to their own levels of skill and achievement, as well as be able to select theatre projects each semester from a variety of choices. own levels of skill and achievement, as well as be able to select theatre projects each semester from a variety of choices.

“A small body of determined spirits fired by an unquenchable faith in their mission can alter the course of history. —

Mahatma Gandhi





FLIGHTS OF DISCOVERY AT THE AVIATION MUSEUM (2515/2516)

YEAR 1 CREDIT.

NOTE: FOUR/FIVE HOURS PER WEEK

AFTER SCHOOL COMMITMENT

Flights of Discovery is a National Aeronautics and Space Administration (NASA) computer-based program of teaching-learning and practical hands-on projects that will give students an introduction to the world of aeronautical knowledge and skills. The Flights of Discovery Program is an integrated program crossing the usual lines of course content, enriching mathematics, sciences, geography and history to learn about the principles of flight, how they came to be understood, and how they are applied. Included are modules on Aeronautics, Navigation, Weather, Air Traffic Management, Communications, and Airport Design. The course is located at the Aviation Museum of New Hampshire in Manchester. Students are responsible for transportation to the museum. This course is being offered as an Extended Learning Opportunity (ELO). It has been developed through a partnership with the Manchester School District and the New Hampshire Aviation Historical Society.

PREPARATION FOR THIS COURSE: Students must have an high interest in this area, be willing to work independently, and commit to an after school schedule.

Power Knights (FIRST) (2527/2528) (WEST ONLY)

YEAR, 1 CREDIT.

NOTE: AFTER SCHOOL COMMITMENT

Power Knights is an co-curricular learning experience designed to teach students about science and engineering. Students work with engineers and technicians to design and build a robot to compete in athletic-style competitions with schools from across the country. The team competes in regional and national events, along with several local events. The course is open to all students interested in the subject area and requires a minimum of 90% attendance to all FIRST-related events.

EXTENDED LEARNING OPPORTUNITIES

EXTENDED LEARNING OPPORTUNITY PROGRAM

The ELO Program at all Manchester High Schools is an opportunity for students to explore and receive credit for learning activities outside the traditional classroom. These include internships, community service projects, independent course study, private instruction, work-based education and other activities that result in learning. Credit will be granted when the student demonstrates completion of course competencies as approved by certified personnel. Through reflection activities, students will examine their personal goals, skills, and values relating to the world of work. This program is open to everyone. Students must be able to commit to completing hours and activities that are outside their regular school hours. Students participating in this program are required to meet regularly with their cooperating teacher, community partner and/or ELO Coordinator. Each student must also keep a journal and complete a final project presentation. To learn more, a student should speak with his or her guidance counselor and/or the ELO Coordinator

VIRTUAL LEARNING ACADEMY CHARTER SCHOOL

VLACS Admissions Information for Part-Time Students

Part-time students are typically enrolled in another school, being home schooled, or part of some other alternative program. Part-time students can be active in no more than four classes at one time and may not take more than six credits between July 1st and June 30th of any year. Students wishing to enroll in a VLACS course are strongly advised to check with their school's guidance counselor to determine whether selected courses will meet graduation requirements for their school.

Part-time Student Eligibility Criteria

In order to be eligible to enroll in classes as a part-time student at the VLACS a student must:

- Be a New Hampshire resident to qualify for free tuition or pay non-resident tuition in full prior to enrollment;
- Have not earned a high school diploma;
- Not be expelled from a school or diploma granting program;
- Successfully complete the enrollment process;
- Complete all coursework prior to their twenty-first birthday;
- Submit all information required by the NHDOE to ensure eligibility for funding.

VLACS Admissions Information for Full-time Students

To complete the admissions process, prospective students are required to (1) complete an admissions application, (2) participate in student/parent interviews, and (3) transfer academic records to VLACS. During the admissions process, students should remain enrolled in their current school program until notified by the VLACS admissions office. Admitted students will be pursuing a VLACS diploma that meets New Hampshire requirements for high school graduation. Students must earn at least four credits per year plus meet requirements for community service, portfolio development, and will be in regular contact with an assigned advisor. Students who successfully complete the admissions process will be enrolled in classes as full-time seats become available. Students may take courses as a part-time student while waiting for full-time seats to become available.

Full-Time Student Eligibility Criteria

In order to be eligible to become a full-time student at the VLACS a student must:

- Be a New Hampshire resident to qualify for free tuition or pay non-resident tuition in full upon admission;
- Have not earned a high school diploma;
- Not be expelled from a school or diploma granting program;
- Successfully complete the admissions application including the submission of school transcripts;
- Complete one or more 1/2 segments of an English, math or science course with a grade of 70% or better as a part-time student before becoming eligible for full-time status;
- Receive a recommendation for acceptance from the VLACS admissions team;
- Complete all coursework prior to his or her twenty-first birthday;
- Submit all information required by the NHDOE to ensure eligibility for funding.

VLACS COURSE OFFERINGS 2021-2022

HIGH SCHOOL WORLD LANGUAGES

Spanish 1	Mandarin Chinese 1
Spanish 2	Mandarin Chinese 2
Spanish 3	Mandarin Chinese 3
Latin 1	French 1
Latin 2	French 2
Latin 3	

HIGH SCHOOL ARTS

Digital Photography 1  
Digital Photography 2  
Music Appreciation  
Digital Arts

Digital Imaging  
Art in World Cultures  
Music Appreciation  
Theater, Cinema, & Film Production  
Web Design 1  
Intro to Social Media

HIGH SCHOOL ENGLISH

English 1 English 3  
English 1 Honors English 3 Honors  
English 2 English 4  
English 2 Honors English 4 Honors  
Reading for College Success  
Public Speaking Journalism  
Mythology & Folklore Gothic Literature  
AP English Language and Composition  
AP English Literature and Composition

HIGH SCHOOL TECHNOLOGY

Computing for College and Careers  
Computer Programming - Python & Java  
Digital Imaging  
Web Design 1  
Web Design 2  
AP Computer Science A  
Green Design & Technology

HIGH SCHOOL BUSINESS

Computer Science 1 or 2  
Introduction to Entrepreneurship 1  
Introduction to Marketing 1  
Advertising & Sales Entrepreneurship  
Hospitality & Tourism Sports Marketing

HIGH SCHOOL FAMILY & CONSUMER SCIENCE

Early Childhood Education  
Fashion and Interior Design  
Intro to Culinary Arts  
Real World Parenting

HIGH SCHOOL MATH

Algebra 1 Liberal Arts Math  
Algebra 1 Honors Geometry  
Algebra 2 Pre-Calculus Honors  
Algebra 2 Honors AP Calculus AB  
AP Statistics AP Calculus BC  
Personal Finance

HIGH SCHOOL SOCIAL STUDIES

American Government  
US History Psychology  
Global Studies AP Microeconomics  
Economics AP Macroeconomics  
World History AP US History  
Careers in Criminal Justice  
Criminology History of the Holocaust  
Human Geography Intro to Anthropology  
Intro to Sociology Intro to Psychology  
AP US Government Law and Order  
Intro to Women's Studies

HIGH SCHOOL SCIENCE

Biology 1 Physical Science  
Biology 1 Honors Physical Science Honors  
Honors Chemistry Chemistry Honors  
Earth/Space Science AP Biology  
Marine Science Biotechnology  
AP Environmental Science  
Anatomy & Physiology  
Anatomy & Physiology Honors  
Marine Science  
Marine Science Honors  
Green Design and Technology

TEST PREPARATION/STUDY SKILLS

English Language Arts Critical Thinking  
(SAT, ACT, CCSS Test Prep)  
Mathematics Critical Thinking  
(SAT, ACT, CCSS Test Prep)  
Thinking and Learning Strategies