The Program of Studies is presented to the students and parents of the Patchogue-Medford learning community as a collaborative effort created by administrators, teachers and counselors. Its purpose is to assist with the selection of courses not only for the 2018-2019 academic school year, but to also provide a resource that relates programming to a broader, long term four-year high school plan.

Careful planning each year assures that students will have experience in a variety of academic disciplines, which will provide for greater opportunities upon graduation. The Counseling Department is eager to assist you with the programming process and encourages all students to experience coursework that challenges their abilities.

The Patchogue-Medford School District offers educational, vocational, non-academic, and extracurricular opportunities without regard to gender, race/ethnicity, or disability. The individual designated to coordinate equity compliance issues is the Assistant Superintendent for Human Resources, Dr. Joey Cohen, (631) 687-6340.

El distrito de Pachigua-Medford ofrece las oportunidades educativas vocacionales, no docentes y extra de curricular sin la consideración al general, la raza/etnia o incapacidad. El individual designo a coordinar los asuntos de la conformidad de la equidad es Asistente Supervisor de Human Rezurces (631) 687-6340.

**COUNSELING DEPARTMENT DIRECTORY**

**Patchogue-Medford High School (631) 687-6530**  
Director of Guidance, Michael Zanfardino  
   Nancy Goldfader  
   Kim Hughes  
   Eric Matamoros  
   Maria Leon-Pineros  
   Michael Pawluk  
   Gina Romani  
   Megan Space  
   Lauren Tirado  
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   Nancy Owen  
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**Saxton Middle School (631) 687-6720**  
   Ken Balsamo  
   Jessica Iammatteo

**South Ocean Middle School (631) 687-6620**  
   Wendy Michnoff  
   Jennie Ramos
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THE PROGRAMMING PROCESS

The programming process begins in the month of January. During the month of January all students will meet with the counseling staff and receive an overview of the programming process. The overview session includes a review of graduation requirements, exploration of the Program of Studies, instruction on how to complete the Course Request Form, and suggestions on how to choose courses to maximize opportunities available after graduation.

After attending the overview session, each student is encouraged to make course choices based on discussion with parents and review of the Program of Studies. The Program of Studies is developed to provide a detailed summary of the comprehensive courses offered at Patchogue Medford High School. Please study this book carefully and follow the course selection guidelines before meeting with your counselor. These tentative choices should be listed on the Course Request Form and parents and students should sign the form. Students are expected to bring this form to each class and teachers will have the opportunity to review student selections and provide recommendations on the Course Request Form. Course Request Forms are collected by the last teacher of the day and are returned to the Counseling Office.

All students are then assigned an appointment with their counselor to formalize the program. At this appointment, counselors will make placement decisions after reviewing student requests, teacher recommendations, past performance, standardized test scores, and college and career goals. Student requests are mailed home for parent review. Parents are encouraged to make appointments with counselors to discuss any questions or concerns. Check your Naviance homepage for updates on the programming process, including important dates to note. Naviance includes information on department activities including but not limited to programming, special presentations, PSAT/SAT/ACT, scholarships, colleges, etc. You will never miss the opportunity to take advantage of our exceptional services if you visit Naviance regularly!

The Counseling Department is pleased to introduce NAVIANCE, a web-based service designed for students to assist them in their exploration of personal interests, colleges and careers. NAVIANCE will also be an integral component of the college application process as all school documents (transcripts, teacher recommendations, etc.) will be sent to colleges electronically within the NAVIANCE system. NAVIANCE will allow students the opportunity to research colleges and careers, build a resume, sign-up to meet with college representatives visiting our high school, and stay up-to-date on anything and everything related to life after PMHS.

Visit your Naviance homepage frequently for informational updates on items of importance to parents and students. Parents who currently do not receive email updates from the counseling department should contact counselors to provide updated email contact information.

Contact the counseling office for more information about your Naviance account.
Course Requirements - It is highly recommended that all students select an academic program inclusive of seven periods of instruction plus lunch. Students with college plans should maintain a high level of achievement throughout the senior year, as acceptances and/or possible scholarship opportunities may be based upon the strength of grades and academic program. School policy requires that seniors enroll in six periods of instruction including Physical Education. Seniors may elect a six or seven period day under the late arrival/early release option. If a senior chooses to opt for early release, the request must be made at the time of programming. Early release is subject to availability after all other course requests have been programmed. There will be no schedule changes in September to accommodate early release. Seniors with early release must agree to leave the building and may return after 1:50 p.m. for extra help, Driver’s Ed., co-curricular activities and athletics. If a student cannot leave, then early release is not appropriate and will be rescinded.

- Seniors must understand that early release is not guaranteed and students must not make employment commitments requiring an early dismissal.

Students requesting an 8 period day must fill out an opt-out of lunch form signed by a parent/guardian. You may bring a bagged lunch but you will NOT be permitted to go to the cafeteria to purchase lunch.

- Sufficient Enrollment - The offering of any course is dependent upon sufficient enrollment.
- Summer School - It is recommended that courses failed during the regular school year be remediated in summer school, with approval, to avoid delay of graduation.
- Credit Recovery - All students who fail a course(s) have two options to recover credit. Students are allowed to remediate the class(es) during summer school or during credit recovery. The credit recovery program typically runs from either 2:30pm – 4:00pm or 4:00pm – 5:30pm.
- Early Graduation - Early graduation may be permitted with approval of the high school principal. Applications must be filed with the counselor in the year prior to expected graduation.
- Ranking Procedures - Class rank is determined for each student at the completion of each year and after the first semester of grade 12. All courses are included in calculating class rank. Transcripts indicate un-weighted final grades as well as weighted and un-weighted cumulative averages. For the purpose of calculating class rank, final course grades will be weighted to reflect the difficulty level of the course. The following weighting factors have been established:
  AP Courses 1.10
  Honors/BEACON Courses/Pre-AP/College Level Courses 1.05
  Regents Courses 1.00

- Selection of the Valedictorian, Salutatorian, and Essayist of the graduating class will be in accordance with Board of Education Policy.

PSAT - Preliminary Scholastic Assessment Test: This exam is offered in October to juniors, sophomores and freshmen to familiarize students with the SAT format. Juniors are eligible for the National Merit Scholarship. PSAT scores are not made available to colleges and are best used as a reference to identify strengths and weaknesses. All juniors are encouraged to take the PSAT exam. Register for the PSAT at the PMHS Guidance Center.

SAT - SAT I Reasoning Test: Students should anticipate taking this test in May or June of their junior year. Additional retakes are scheduled in October, November and/or December of the senior year.

SAT II Subject Test: Competitive colleges may require subject tests for admission. Any subject tests should be taken in June of the year the subject is completed.

ACT - American College Testing: This achievement test is accepted by most colleges/universities for admission. Students should take the test in the spring of their junior year and fall of their senior year.

SAT/ACT CEEB CODE 333093    SAT TEST CENTER CODE 33602    ACT TEST CENTER CODE 191350

****Students must register online for SATs at: www.collegeboard.com and for ACTs at: www.actstudent.org. Please be advised that if testing accommodations (extended time, tests read, scribe, etc.) are requested for the PSAT, AP Program, SAT or ACT, you must complete an application which is available in the Counseling Office or at CSE/504 Meetings. Note: The College Board and ACT Testing Program require several weeks to process these applications. This College Board form needs to be completed only once during high school (except for situations where an IEP changes).
The National Collegiate Athletic Association (NCAA), an organization founded in 1906, which has established rules on eligibility, recruiting, and financial aid, regulates many college sports. The NCAA has three membership divisions: Division I, Division II, and Division III. If you are planning to enroll in college as a freshman and wish to participate in Division I or Division II sports, you must be certified by the NCAA Initial Eligibility Clearinghouse. Students must register online at: www.ncaaclearinghouse.net. The Clearinghouse will recalculate your academic information and determine if you meet the NCAA’s initial eligibility requirements.

**Student athletes are required to send their SAT/ACT scores electronically from the test center. Students must use Code 9999.**

All students who are planning to play collegial sports MUST meet with their counselor to declare NCAA interest and review course selections.

**Division I Requirements:**
Complete a core curriculum of at least 16 academic courses from the list of approved courses (see NCAA website for Patchogue-Medford’s list of approved courses).
A minimum G.P.A. and SAT score/ACT sum score that meets the NCAA qualifier index.
Graduate from high school.

**16 Core Courses:**
4 years of English
3 years of Mathematics (Algebra I or higher) *Geometry is suggested but not required*
2 years of Natural/Physical Science (including 1 year of lab Science)
1 year of additional English, Mathematics, or Natural/Physical Science
2 years of Social Science
4 years of additional courses (from any area above or Foreign Language)

*Although a course is NCAA approved, courses with similar content may be deemed duplicative by the NCAA Eligibility Center.*

**Division II Requirements:**
Complete a core curriculum of at least 16 academic courses from the list of approved courses.
Earn a 2.0 G.P.A. or better in your core courses.
A minimum combined SAT score of 820 or an ACT sum score of 68.
Graduate from high school.

**16 Core Courses:**
3 years of English
2 years of Mathematics (Algebra I or higher)
2 years of Natural/Physical Science (including one year of lab science)
3 years of additional English, Mathematics, or Natural/Physical Science
2 years of Social Science
4 years of additional courses (from any area above or Foreign Language)
EXPECTATIONS OF STUDENTS IN HONORS AND ACCELERATED PROGRAMS

All students are encouraged to select challenging courses. Students who seek and accept placement into honors and accelerated courses should be aware that they are making a multi-year commitment that will culminate in Advanced Placement courses and Advanced Placement examinations, or other rigorous, high-level courses.

**COLLEGE BOARD ADVANCED PLACEMENT (AP) PROGRAM**

Advanced Placement (AP) courses are offered through College Board, the organization that sponsors the PSAT, SAT I, and SAT II Testing Programs. The AP Program allows students to experience college level coursework while attending high school. The coursework is rigorous but the opportunities and rewards are substantial. In addition to the benefit of experiencing a college level course, many colleges offer credit for excellent scores on the AP exam. Enrollment in AP courses also enhances opportunities for college acceptance, and many highly selective colleges require them as a prerequisite for admission. Participation in the program demonstrates to the college admissions community the student’s willingness to aggressively seek challenging academic experiences. Students enrolling in Advanced Placement courses should consider the following points:

1. AP courses require vigorous participation in the classroom and disciplined study efforts at home.

2. Students may be expected to complete reading and/or preparatory assignments during the summer preceding enrollment in the AP course(s).

3. Teacher recommendation is required.

4. Students who elect AP courses must remain in the course for the entire year and take the AP examination for full weighting (1.1) as a culminating experience. Registration for the AP exam will begin in the fall. Each examination has a fee. Fee reductions are available for students who demonstrate financial need and have been approved for free and/or reduced lunch. Students must meet with their guidance counselors for information on the fee waiver.

5. An AP parent informational night will be held in the fall and in the spring. Please check the school calendar for the date.

6. It is the hope that students strive to take rigorous courses and elevate their own academic expectations but are warned about overextended themselves. Traditionally students who have over enrolled in higher level courses have not achieved the level of success they could have if they were more focused. It is strongly advised that all students who take multiple honors and advance placement courses meet with their counselor and/or director to ensure they are properly prepared.

The following AP courses are offered pending enrollment. Each AP course has a corresponding exam that schools worldwide administer in May, except Studio in Art, which is a portfolio assessment. Please check the full course descriptions in the individual department sections for more detail. For further information, visit [www.collegeboard.com/student/testing/ap/about.html](http://www.collegeboard.com/student/testing/ap/about.html).

**Summer Assignment Required**

<table>
<thead>
<tr>
<th>Art</th>
<th>Computer Science</th>
<th>English</th>
<th>Mathematics</th>
<th>Science</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP Studio 2D*</td>
<td>AP Computer Science A</td>
<td>AP English Literature</td>
<td>AP Calculus AB</td>
<td>AP Biology*</td>
<td>AP Euro</td>
</tr>
<tr>
<td>AP Studio 3D*</td>
<td>AP Computer Science Principles</td>
<td>AP English Language</td>
<td>AP Calculus BC*</td>
<td>AP Chemistry*</td>
<td>History/Government*</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>AP Physics 1*</td>
<td>AP Psychology*</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>AP Physics 2*</td>
<td>AP US History*</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>AP Seminar*</td>
<td>AP World History*</td>
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<td></td>
<td></td>
<td>AP Research*</td>
<td>AP Human Geography</td>
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<td>AP Seminar*</td>
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<td></td>
<td></td>
<td>AP Research*</td>
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</table>
The BEACON Program is a dual enrollment program that will allow Patchogue-Medford High School students to take Suffolk County Community College (SCCC) courses during their junior and senior years. These are college-level courses taught by high school teachers who have been granted adjunct status by SCCC and they demand the same level of rigorous work as courses offered at the college campus. Students who have an 85 grade point average and/or an 80 with teacher recommendation are eligible to enroll in BEACON Program courses. Upon successful completion of an BEACON Program course, students have the option to receive a SCCC transcript for the course credits. Tuition will be determined by SCCC. BEACON students are eligible to use SCCC’s three campus libraries and have access to student events on campus such as theatre productions, concerts, and other student activities. Tuition payment for an BEACON course will be due in September.

Students need to pass the course as per SCCC grading system: [http://department.sunysuffolk.edu/Excelsior/index_1092.asp](http://department.sunysuffolk.edu/Excelsior/index_1092.asp)
Transferability is described at: [http://department.sunysuffolk.edu/Excelsior/index_1093.asp](http://department.sunysuffolk.edu/Excelsior/index_1093.asp)

The following courses have been approved as SCCC BEACON courses and are offered pending enrollment. BEACON courses will have a course weighting of 1.05.

<table>
<thead>
<tr>
<th>Business</th>
<th>Foreign Language</th>
<th>Mathematics</th>
<th>Art/Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEACON College Accounting</td>
<td>BEACON Advanced Spanish Communication</td>
<td>BEACON College Algebra</td>
<td>BEACON Art History**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BEACON Pre-Calculus</td>
<td>BEACON Music**</td>
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<tr>
<td></td>
<td></td>
<td>BEACON Statistics</td>
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<tr>
<td></td>
<td></td>
<td>BEACON Calculus</td>
<td></td>
</tr>
</tbody>
</table>

(SCCC tuition for a three-credit course is $654, while High School Scholars tuition is $160 - an 80 percent savings).

** Waiting Suffolk College approval for BEACON credit.

University in the High School Program – Farmingdale State College, State University of New York
Students enrolled in Virtual Enterprise under the Business Department have a tremendous opportunity to get a head start on their college career by earning up to nine (9) college credits at a fraction of the cost and without the pressure of having to take Advance Placement exams. The University in the High School program enables qualified high school juniors and seniors to earn college credit for the approved courses listed below while attending PMHS. Students who register with Farmingdale State College and successfully complete the course will be eligible to earn undergraduate college credits. Credits will be recorded on an official Farmingdale transcript and can either be used to pursue a degree at Farmingdale or a transcript can be sent to any other college the student wishes to attend. In addition, Virtual Enterprise has a course weighting of 1.05.

BCS 110 – Introductory Special Topics in Computer Programming and Information Systems (Electronic Commerce) (3 Credits)
BUS 111 – Introduction to Business (3 Credits)
BUS 141 - Contemporary Business Communications (3 Credits)

The current registration fee for a three (3) credit course is $150.00, subject to revision. Students who are eligible or who participate in the Federal Reduced/Free Lunch Program in Patchogue-Medford Union Free School District will have a 50% reduced registration fee of $75 for a three (3) credit class, subject to revision.

LIU HIGH SCHOOL SCHOLARS PROGRAM
The LIU High School Scholars Program offers Patchogue-Medford High School students an opportunity to accelerate their college education while studying in their high school classroom. Students who enroll in College Earth Science will earn dual-credit – credit that applies toward both the high school diploma and a bachelor’s degree. College Earth Science will have a course weighting of 1.05. Students taking this course will have access to the LIU libraries and to student events on campus such as theatre productions, concerts, and other student activities.

Prepare for College: Explore an advanced science topic in a supportive, hands-on learning environment designed to prepare students for college-level academic standards.

Save Money: Courses are significantly discounted from on-campus tuition, enabling students to earn credits and get ahead in their college career (LIU Post tuition for a three-credit course is $3,675, while High School Scholars tuition is $290 - a 90 percent savings). Payment is due in October.

Graduate Sooner: Credits may be applied to undergraduate degree programs at LIU Post (or transferred to other institutions, as determined by the receiving institution).
GRADUATION REQUIREMENTS

<table>
<thead>
<tr>
<th>Required Credits</th>
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<tbody>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>Social Studies</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Science</td>
<td>3</td>
</tr>
<tr>
<td>World Languages</td>
<td>1</td>
</tr>
<tr>
<td>Art/Music</td>
<td>1*</td>
</tr>
<tr>
<td>Health</td>
<td>.5</td>
</tr>
<tr>
<td>Physical Education</td>
<td>2*</td>
</tr>
<tr>
<td>Electives</td>
<td>3.5</td>
</tr>
<tr>
<td>Total Credits</td>
<td>22</td>
</tr>
</tbody>
</table>

In addition to the minimum required credits for graduation, a student’s diploma type will be designated as follows:

The Advanced Regents Diploma requires successful completion of the English Language Arts Regents Examination, three Regents Examinations in Math, two Regents Examinations in Science, two Regents Examinations in Social Studies and three credits in one World Language (including Level 3, and successful completion of a locally developed comprehensive exam). *

* Achievement of five credits in Art (including Studio Art), Music (including Music Theory), Fine Art (including Studio Art), Business, Technology or Academy of Applied Technology Programs can be substituted for the three-credit World Language requirement.

The Regents Diploma requires successful completion of four Regents Examinations (English Language Arts, Math, Science, Social Studies) and a Pathway to Graduation.**

The Local Diploma (available as an option for students who have an IEP) requires successful completion of the English Language Arts Regents Examination and a Math Regents Examination (typically Algebra) and successful completion of a Pathway to Graduation.** As a number of options exist for students with an IEP, consult with your child’s counselor for additional information.

**A Pathway to Graduation consists of 5 elements (combination of Regents Examinations and/or CDOS experience). To obtain this pathway, all students must meet minimum score requirements on the following 4 elements: English Language Arts, Math, Science and one Social Studies Regents Examination. The 5th element completes the pathway and can be attained by meeting a minimum score requirement on an additional Math, Science or Social Studies Regents Examination, or by successful completion of the CDOS Pathway (completion of 216 hours of CTE coursework and/or work-based learning experiences, of which at least 54 hours must be in work-based learning experiences).

GRADE LEVEL PROMOTION REQUIREMENTS
To be eligible for senior (grade 12) status, the proposed senior year program must include the potential to graduate in June.

- To be eligible for junior (grade 11) status, 7 credits are required.
- To be eligible for sophomore (grade 10) status, 4 credits are required.

CHOOSING COURSES

Each student is encouraged to make course choices based on discussion with parents, counselors and review of the Program of Studies. Students have the opportunity to make changes to their course requests after parental review and prior to the end of the programming process.

CHANGE OF COURSES

For the 2019-2020 school year, if after reviewing course selections, your child decides to take an alternative course, please make an appointment immediately, but no later than May 1, 2019. No schedule changes after this date will be considered unless the parent/student presents ample extraordinary reasons for the requested change at a meeting with the guidance counselor. For students who may have scheduling conflicts, counselors will schedule appointments to select alternative courses after June 1, 2019.

*Please note that the 2019-2020 School Budget may change course offerings.
It is suggested that students carefully select their academic programs. Courses that are offered at our high school are determined by student course requests. Occasionally, a student may need to drop a class after the semester has begun. If a student has not made a concerted effort to succeed by completing class or homework, attending extra-help, participating in class, etc., the student may be withdrawn from the class and receive a withdrawal failure (WF) mark and a final grade of 50 on his/her transcript. If a student has made the effort, then a Withdrawal (WD), in which no final grade will be assigned to the course will appear on his/her transcript. Consideration to award a WF or WD will be made as collaborative decision by the counselor, teacher, and an administrator after conversing with the parent/guardian and student. A final recommendation will be made to the principal or academic director at which time the final determination will be made and then the parent/guardian and student will be informed. All withdrawals remain part of cumulative official high school record and thus appear on transcripts.

HIGH SCHOOL PLANNING CHART

The following chart may be helpful in planning a course of study at Patchogue-Medford High School.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Grade 8</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (4 credits required)</td>
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<tr>
<td>Social Studies (4 credits required)</td>
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<tr>
<td>Mathematics (3 credits required)</td>
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<tr>
<td>Science (3 credits required)</td>
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<tr>
<td>Physical Ed. (2 credits required)</td>
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<tr>
<td>Art or Music (1 credit required)</td>
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<tr>
<td>World Languages (1 credit required)</td>
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<tr>
<td>Health (.5 credit required)</td>
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<tr>
<td>Electives (3.5 credits required)</td>
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</table>
LETTER FROM THE PRINCIPAL

The Patchogue-Medford High School 2019-2020 Program of Studies Handbook has a wealth of information. Please take the time to review it carefully and thoroughly. Each year we add more course selections that we feel students will find interesting, challenging, exciting, and engaging. Our goal is to have a well-rounded academic and elective program of studies so that all students can find their passion and be the best version of themselves prior to graduation and before moving on to post-secondary education, the military, trade schools, or the work force.

Your child’s counselor is one of the single most important people at the high school. They will guide your child from dealing with the challenges of their freshman year up to their junior and senior year in assisting them with making that all important and life-changing career choice of study and what college or university should they choose and whether they should stay local, study further away, or even abroad. There are so many options and possible career paths. Let us help. We are here to assist and also take a special interest and pride in your child’s future.

At the same time, the high school years should be a time where your child challenges themselves academically. If they are curious and show a high level of interest in a particular subject area they should consider taking an Advanced Placement (AP) course which is a college level course taught over the course of a school year as opposed to it being taught in 16 weeks in college. AP classes will allow for your child to experience the expectations of college level coursework. These courses end in a College Board examination and if they score high enough they may even earn course credit at a college or university. These courses do have prerequisites and if they seem too challenging, your child could also consider an honors or regents level course. The goal is for your child to keep “upping their game” each year to challenge themselves and show growth as they make their way through each grade level.

As you can imagine, with 2500 students with approximately 19,000-20,000 course requests combined, we dedicate a lot of resources that include the assistance of many individuals in offering these courses of study. This process which starts with the planning of the Program of Studies for the following year starts in December and concludes with a final master schedule in June so that when your child returns to school in September our teachers are ready and waiting. This immense undertaking would not be possible without the input and expertise from our Teachers, Directors, Principals, Assistant Principals, Counselors, District Office Administration, and most importantly your children. It is through their course requests and interests that we develop our classes and the periods to deliver instruction in the hope of educating them to the best of our ability and for them to learn to the best of their ability.

We are very proud that over the years that your children, our students, through the education they have received at Patchogue-Medford have propelled them to attend the most prestigious institutions of higher learning in the world; enlisting in the military to defend our freedoms in one of the most noblest of ways; enrolled in a trade school to earn specialized training in a career; or have gone directly into the workforce to be the very best they can be as a productive and contributing member of society. All of their success started out very similar; with the opening of the Program of Studies and daring to dare great dreams, challenging themselves, and enrolling in those courses as a means of fulfilling those career goals and life aspirations to be taken to the next level.

I want to wish your child the best as they prepare for the 2019-2020 school year and truly hope it is their best year yet!

Sincerely,

[Signature]
Dr. Randy E. Rusielewicz
Principal
The mission of Air Force Junior ROTC (AFJROTC) is to “Develop citizens of character dedicated to serving their nation and community.” There is no military obligation associated with taking any AFJROTC course. The courses are open to both males and females in grades 9-12 and students can join at the beginning of any grade level. AFJROTC is accredited by AdvancED and the program will enable the students to:

- Develop a high degree of strong morals, self-esteem, self-reliance, personal appearance, and leadership
- Adhere to the values of integrity, service, and excellence
- Increase their understanding of patriotism and responsibilities as US citizens
- Participate in community service activities
- Expand their skills of critical thinking, problem solving, communication and collaboration, and creativity and innovation
- Demonstrate military customs, courtesies, and traditions and develop habits of order, discipline, and social skills
- Acquire a broad-based knowledge of aerospace studies and leadership education
- Cultivate a commitment to physical fitness and a healthy lifestyle

The curriculum includes a journey into aviation history, the science of flight, and exploring space. Leadership and management, health and wellness are included in each course. The program is designed to develop leadership traits and includes communication skills, life skills, and career opportunities. Other activities include field trips, guest speakers, fundraisers, drill teams, color guards, honor guards, model rocketry, astronomy, community service, etc. Students are required to wear the Air Force provided uniform one day a week and will also be issued textbooks and physical training clothing. Air Force appearance standards (haircuts, shaving, etc.) will apply.

There are opportunities to apply for grants and scholarships. Four-year college level Air Force ROTC scholarships and service academy nominations are possible for graduates who qualify. Students who choose to enlist in the military after high school graduation receive a higher rank than those who do not participating in JROTC.

**AEROSPACE SCIENCE 1, LEADERSHIP I (9010)**

Full Year  
1 Credit  
Grades: 9, 10, 11, 12  
Prerequisite: None  
**Course Description:** This is an aviation history course that starts with ancient civilizations and flight and progresses to future developments in aerospace. The course also introduces military customs and courtesies, how to project a positive attitude, and examines the principles of ethical and moral behavior. It provides strategies for effective note taking and study skills for academic success. Students will be introduced to civics and our national government, and how the US Constitution protects our rights and freedoms as American citizens.

**AEROSPACE SCIENCE 2, LEADERSHIP II (9020)**

Full Year  
1 Credit  
Grades: 9, 10, 11, 12  
Prerequisite: None  
**Course Description:** This science of flight course focuses on the principles of flight, aircraft components and flight motion and control, differentiates between the different types of engines, how weather conditions affect flight, the effects of flight on the human body, and flight navigation. The leadership portion is designed to improve communication, enhance awareness of self and others, and provide fundamentals of leadership and followership.
AEROSPACE SCIENCE 3, LEADERSHIP III (9030)

Full Year 1 Credit
Grades: 9, 10, 11, 12
Prerequisite: None

Course Description: This exploring space course covers the United States and other countries space programs, astronomy, satellites, manned space programs, launch vehicles, space probes, the international space station, the Hubble telescope, space shuttles, and basic orbital mechanics. The leadership portion helps students decide which career path to take after high school. Financial planning, resumes, college applications, interview processes, understanding contracts, how to apply for admission to college or vocational/technical school are also part of this course.

AEROSPACE SCIENCE 4, LEADERSHIP IV (9040)

Full Year 1 Credit
Grade: 12
Prerequisite: Aerospace Science 1,2,3

Course Description: This hands-on experience affords students the opportunity to put theories of previous leadership courses into practice. Planning, organizing, coordinating, directing, controlling, and decision-making will be done by the students. They will put into practice their communication, decision-making, personal-interaction, managerial, and organizational skills. The cultural studies portion introduces students to the world’s cultures through the study of world affairs, regional studies, and cultural awareness. The course delves into history, geography, religions, languages, culture, political systems, economics, social issues, environmental concerns, and human rights.
The Patchogue-Medford High School Art Program provides students with many opportunities to gain art experiences. An Art Program can be structured for the serious student of Art who wishes to obtain an Art major and who plans either post-high school Art training or a career in Art. Art courses are also provided for students who do not wish to major in the field of Art but want to obtain Art experiences for personal enjoyment.

Students may use a five credit Art sequence in place of the three-credit language mandate in order to receive an Advanced Regents Diploma.

One credit of foundation coursework (Media Arts or Studio Arts) must be taken as a prerequisite to the advanced Art electives. Please review the flow chart above to review your options.
FOUNDATION ART COURSES

EXPLORING WORLD CULTURES THROUGH THE VISUAL ARTS (7011)
Full Year - Alternate Days  1/2 Credit
Grades: 9, 10, 11, 12
Prerequisite: None. Meets part of the Fine Arts requirement for graduation.
Course Description: This course will provide a varied studio art experience for students in need of an art credit for graduation who do not plan on continuing with advanced art electives. This course will continue to provide students a wide variety of materials and techniques. This course will tie in with subjects being covered in History and Social Studies classes.

EXPLORING WORLD CULTURE THROUGH THE VISUAL ARTS – THE MODERN WORLD (7012)
Half Year - Alternate Days
1/2 Credit  Grades: 10, 11, 12
Prerequisite: None. Meets part of the Fine Arts requirement for graduation.
Course Description: This course will provide a varied studio art experience for students in need of an art credit for graduation who do not plan on continuing with advanced art electives. This course will continue to provide students a wide variety of materials and techniques, integrating topics covered in Social Studies classes.

STUDIO IN ART (7100)
Full Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: None. Meets Fine Arts requirement for graduation.
Course Description: This course is recommended to all students who are considering art as a major sequence and is a prerequisite for advanced art electives. Studio in Art is centered on the development of an understanding of the Elements and Principles of Design and an understanding of color theory. Fundamental skills in drawing, painting, and sculpture will be emphasized using a broad range of two-dimensional and three-dimensional media. Students will also explore the history and tradition of drawing, painting and sculpture.

STUDIO IN ART I (7101)
Half Year Fall
1/2 Credit  Grades: 9, 10, 11, 12
Prerequisite: None. Meets part of the Fine Arts requirement for graduation.
Course Description: This course is designed to fulfill the first half of the Art graduation requirement and is to be combined with Studio in Art II. It is recommended to all students who are considering art as a major sequence and is a prerequisite for advanced art electives. Studio in Art I is centered on the development of an understanding of the Elements and Principles of Design and an understanding of color theory. Fundamental skills in drawing, painting, and sculpture will be emphasized using a broad range of two-dimensional and three-dimensional media. Students will also explore the history and tradition of drawing, painting and sculpture.

STUDIO IN ART II (7110)
Half Year Spring
1/2 Credit  Grades: 9, 10, 11, 12
Prerequisite: Studio in Art I. Completes the Fine Arts requirement for graduation.
Course Description: This course is designed to fulfill the second half of the Art graduation requirement and is designed to be combined with Studio in Art I. This course will continue the work begun in Studio in Art.

MEDIA ARTS (7000)
Full Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: None. Meets Fine Arts requirement for graduation.
Course Description: Media Arts is a unique introduction to the Visual Arts by way of new media and technology. Students interested in tapping the potential of technology and new media for artistic expression will learn to use the computer as a creative tool to solve artistic challenges. Students will learn to appreciate, analyze and create original art and design images using Photoshop, Illustrator, InDesign. Innovative projects will link traditional media and technology, media and related arts while interpreting the elements of art and principles of design. This course also explores the application of design concepts to advertising art. It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.
MEDIA ARTS I (7004)
Half Year Fall
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None. Meets part of the Fine Arts requirement for graduation.

Course Description: This course is designed to fulfill one half of the art graduation requirement and is designed to be combined with Media Arts II. Media Arts I is a project-oriented editing and design course that focuses on artistic expression and its relationship to digital technology. Using Adobe Photoshop and Adobe Illustrator, students will learn to create digital images. This course trains students to understand powerful Photoshop & Illustrator toolsets and workspace and enables students to actualize their ideas by helping them to develop an efficient production process, while at the same time incorporating the Elements and Principles of design to help develop a successful artwork. Emphasis on content, composition, and digital manipulation of images is applied through the creation of various projects. It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.

MEDIA ARTS II (7005)
Half Year Spring
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: Media Arts I. Completes the Fine Arts requirement for graduation.

Course Description: This course is designed to fulfill the second half of the Art graduation requirement and is designed to be combined with Studio in Art I. This course will continue the work begun in Media Arts I.

It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.
ADVANCED MEDIA ARTS (7002)
Full Year
1 Credit Grades 10, 11, 12
Prerequisite: Media Arts
Course Description: Using the skills they learned in Media Arts, students will be able to utilize the computer as a creative tool for such projects as page layout, creative illustration and design. Students will also learn how to create a variety of images including digital illustrator, web design, advanced colorization and image manipulation techniques. In addition, students will create a portfolio of digital illustrations employing a variety of techniques. *It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.*

DIGITAL VIDEO (7033)
Full Year
1 credit Grades 10, 11, 12
Prerequisite: Media Arts
Course Description: Students will explore video as an art form using the computer as an editing tool. The class will utilize the latest in editing software. Students will create a series of original films using images, sound and video based on themes and concepts developed through screenwriting, storyboard preparation and research. Students will explore fictional as well documentary filmmaking. *It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.*

ADVANCED DIGITAL VIDEO (7043)
Full Year
1 Credit Grades 10, 11, 12
Prerequisite: Digital Video
Course Description: This course will be a continuation of concepts learned in Digital Video, including video editing, special effects, operation of cameras and sound recording equipment. Composition, lighting, staging and directing, on-camera announcing, script writing and interviewing will also be emphasized in this course. Students will have the opportunity to produce short-feature in documentary or fictional forum. *It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.*

FILM STUDIES (7320)
Half Year Fall/Spring
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: In this class students will focus on the history of film, understand film theories and concepts, view and discuss a large variety of important films, examine different genres of film and use criticism to discuss what is viewed. The technical emphasis will be to examine the formal elements of film such as the hero’s journey, transitions, camera shots and angles as they relate to the development of story, plot and tone of film. The goal will be to establish a formal vocabulary regarding film making in order to understand the role of film in society and our culture. This course will allow students to view and critically analyze the films they review.
FINE ART

DRAWING AND PAINTING (7126)

Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: Studio in Art

Course Description: Students in this advanced course will explore in-depth projects of representation and abstraction on a flat surface using acrylic paint, watercolor and various drawing media, as well as observational drawing of the human figure. Creative insight and technical proficiency are stressed. Students are taught the history and tradition of painting and are expected to experiment with a variety of painting styles and techniques.

ADVANCED DRAWING AND PAINTING (7128)

Full Year
1 Credit Grades 10, 11, 12
Prerequisite: Drawing and Painting II

Course Description: The drawing section of this class continues with the exploration of a variety of techniques using pencil, ink, charcoal and pastels. Students will continue to develop higher level skills drawing a wide variety of subject matter while using more complex color schemes and compositions. The painting section is designed to help students develop higher level painting skills and the ability to observe and have an awareness and appreciation of art, past and present. Instruction in this class will continue the study of color theory, mixing and applying paint to canvas to achieve a variety of effects, composition, design elements and principles, and various painting movements. The principal elements of two-dimensional design will be covered in greater depth. Students will continue to analyze and critique artworks to gain a deeper understanding of the cultural contributions of visual art in the context of history.

PORTFOLIO DEVELOPMENT: Drawing and Painting (7181)

Full Year
1 Credit Grades: 10, 11, 12
Prerequisite: Advanced Drawing and Painting

Course Description: This course enables students intending to further their art studies beyond high school to develop a portfolio or body of work for admission to college with an emphasis on drawing and painting from direct observation. Students will be able to work on general portfolio pieces, as well as to concentrate on specific areas of interest, such as drawing, painting and printmaking. Students will also continue the study of observational drawing of the human figure.

AP STUDIO ART DRAWING PORTFOLIO (7190)

Full Year
1 Credit Grades: 11, 12
Prerequisite: Advanced Drawing and Painting or Portfolio Development

Course Description: This course enables highly motivated students to experience college-level work in Studio Art while in high school. Students will submit for evaluation to the Advanced Placement Board a portfolio that demonstrates quality, concentration and breadth. This course, like all advanced placement courses, involves significantly more time commitment than most high school courses and is therefore intended for students seriously committed to the study of Art. Many colleges will award credit to students who achieve excellent scores based on portfolio evaluation. All students enrolled in this class are expected to take the College Board AP exam.
SCULPTURE AND CERAMICS (7420)
Full Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisites  Studio Art
Course Description: This course introduces sculpture concepts and techniques using a variety of materials including paper, plyboard, plaster, wood, wire, paper mache and clay. Techniques will include modeling, carving, assemblage, casting, paper folding, coil building and Slab building. All clay projects will be fired and glazed. Personal style and creative problem solving will also be emphasized. Students will also learn techniques for creating pottery on the pottery wheel. Students will also be introduced the history of sculpture and the artists associated with benchmark works.

ADVANCED SCULPTURE AND CERAMICS (7429)
Full Year
1 Credit  Grades 10, 11, 12
Prerequisite: Sculpture and Ceramics II
Course Description: This course is designed to further develop the student’s ability to solve problems in three dimensions. Students will create higher level works of art using a variety of processes including: assemblage, carving, casting, and relief sculpture. Hand building, wheel throwing, glazing and continued exploration of advanced ceramic techniques will be emphasized. Students will continue to analyze and critique artworks to gain a deeper understanding of the cultural contributions of visual art in the context of history. Students will develop a series of work that can be used as part of the AP 3D portfolio or for college entrance applications.

JEWELRY
(7440) Half Year Fall/Spring  (7445) Full Year- Alternate Days
1/2 Credit  Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: In this hands-on class, students will learn and practice a range of beading, jewelry-making and embellishment techniques, including wirework, stringing, weaving, knotting, gluing, and hand-sewing. The course will focus on color, balance, arrangements, and intuitive design - creating a collection of jewelry and other crafts that bring your treasures to life. The projects the students create will reflect each student's personal sense of style and other favorite elements as well as the fundamentals of Art and the Elements and Principles of design.

AP STUDIO ART 3D DESIGN PORTFOLIO (7450)
Full Year
1 Credit  Grades: 10, 11, 12
Prerequisite: Advanced Sculpture and Ceramics
Course Description: This course enables highly motivated students to experience college-level work in Studio Art while in high school. Students will submit for evaluation to the Advanced Placement Board a portfolio that demonstrates quality, concentration and breadth. This course, like all advanced placement courses, involves significantly more time commitment than most high school courses and is therefore intended for students seriously committed to the study of Art. Many colleges will award credit to students who achieve excellent scores based on portfolio evaluation. No written examination is required. Students may enroll in only one AP Studio class per year. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.

FASHION DESIGN AND MARKETING (6150) ** New Course for 2019-2020
FULL YEAR
1/2 Credit Art  1/2 Credit Business  Grades 9, 10, 11, 12
Prerequisite: None
Course Description: From the runways of Paris and Milan, to the retail stores of Patchogue and Medford, fashion is all around us. If you are a creative individual that loves fashion, then this is the course for you! This course will introduce you to fashion industry standards in design, creativity, and illustration while you simultaneously acquire a knowledge base in fashion marketing. This dual Art and Business department course, taught by two teachers who specialize in these two areas, combines the best of both worlds! You will gain knowledge and experience from guest speakers, attending field trips to various wholesalers and museums in the NYC garment district, and using industry software and technology. You will create a portfolio and showcase your design and marketing skills in the Senior Fashion Show as well as a host of other venues. DOES NOT MEET ART REQUIREMENT FOR GRADUATION
DIGITAL PHOTOGRAPHY (7511)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: Media Arts or Studio in Art
Course Description: This is an introductory course for digital media. Students will learn the most up-to-date photographic and digital techniques. Digital cameras, lighting equipment, computers, photographic editing software, and professional quality printers will be used to create high quality images. Emphasis is placed on understanding manual settings in DSLR, editing images in the digital darkroom and printing high-resolution photographic images. The works of significant photographers will be examined. It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.

TRADITIONAL PHOTOGRAPHY (7520)
Half Year- Fall/Spring
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This is a basic course in Black and White Photography for students who want to familiarize themselves with the fundamentals of photography. Emphasis will be on practical applications in the use of a pinhole photography, manual 35mm camera, manual 120mm, basic lens, shutter speed, measuring available light, film processing, and enlarging and mounting prints. Students will gain experience in the understanding of how photography works through lectures, demonstrations and hands-on applications, including camera controls, processing film and making photographic prints in the dark room. The basic elements of good composition, proper exposure and print finishing such as mounting and spotting techniques will also be covered. It is highly recommended students provide their own 35mm film, 120mm film, and paper.

TRADITIONAL PHOTOGRAPHY II (7522)
Half Year- Fall/Spring
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: Traditional Photography I
Course Description: This is an advanced course in Black and White Photography for students who want to familiarize themselves with the experimental processes of photography. Emphasis will be on experimental techniques including: in camera double exposure, hand coloring, cyanotypes, van dyke brown printing, solarplates, video, and large format photographing and printing. Students will develop a deeper understanding how photography works through lectures, demonstrations and hands-on applications, including camera controls, processing film, different techniques on developing prints in and outside the darkroom. Students will also gain experience working in the studio combining traditional and digital processes. It is highly recommended students provide their own 35mm film, 120mm film, and paper.

ADVANCED DIGITAL PHOTOGRAPHY (7502)
Full Year
1 Credit Grades: 10, 11, 12
Prerequisite: Digital Photography
Course Description: This course continues to explore digital photography as an art medium. The assignments addressed in this class will be similar to those professional photographers would create. Assignments may include portraits, landscapes, still lives, magazine editorials, and creative manipulation and enhancement in Adobe Lightroom and Adobe Photoshop. Students will be introduced to various terms and theories used in art, including elements and principles of design, artistic movements and their artists. Students will maintain a portfolio throughout the year. It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.

PORTFOLIO DEVELOPMENT PHOTOGRAPHY AND MEDIA (7526)
Full Year
1 Credit Grades: 10, 11, 12
Prerequisite: Advanced Photography or Advanced Media Arts
Course Description: This course enables students intending to further their art studies beyond high school to develop a portfolio of body of work for admission to college. Students will be able to work on general portfolio pieces, as well as to concentrate on a specific area of interest, such as photography, media arts or mixed media. Students will also continue to study a number of advanced photography and media arts concepts and techniques. This class specifically prepares students for the AP Studio Art 2D Design Portfolio class. It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.
AP STUDIO ART 2-D DESIGN PORTFOLIO (7070)
Full Year
1 Credit Grades: 11, 12
Prerequisite: Advanced Media Arts, Advanced Photography or Portfolio Development
Course Description: This course enables highly motivated students to experience college-level work in Studio Art while in high school. *It is highly recommended students purchase a 16-32gb flash drive or SD card to save their work.* Students will submit for evaluation to the Advanced Placement Board a portfolio that demonstrates quality, concentration and breadth. This course, like all advanced placement courses, involves significantly more time commitment than most high school courses, and is therefore, intended for students seriously committed to the study of Art. Many colleges will award credit to students who achieve excellent scores based on portfolio evaluation. No written examination is required. Students may enroll in only one AP Studio class per year. Any students planning on completing a photography portfolio must enroll in this course. *There is a required summer assignment.* All students enrolled in this class are expected to take the College Board AP exam.

**ART HISTORY**

BEACON ART HISTORY (7325)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Art History is designed to provide the same benefit to secondary school students as those provided by an introductory college course in Art History; an understanding and knowledge of architecture, sculpture, painting and other art forms within diverse historical and cultural contents. Students will examine forms of artistic expression from the past and present from a variety of cultures. They will learn to look at works of art critically with intelligence and sensitivity in order to analyze what they see. There is a required summer assignment. Students may choose to register with Suffolk County Community College to take this course for 3 college credits through the BEACON Program. Please refer to page 8 for BEACON information (tuition and due dates).
CTE

Dr. Joseph Paolicelli

Law enforcement

Year 1 (9511)
3 Credits Grade: 11
Prerequisite: None

Course Description: A Career and Technical program for students interested in Law Enforcement or Criminal Justice. This course provides an opportunity to learn about various aspects of work as Police, Corrections officers, Security guards, and other related career fields while participating in a law enforcement style fitness program. In year one students review criminal justice, criminal and penal law, review misdemeanors and felonies, courtrooms, trials, prisons and jails, probation and parole, and the juvenile justice system. The curriculum is presented through classroom instruction, computer-based learning, and hands-on related activities with many guest speakers, demonstrations, field trips, and opportunities to experience the field of law enforcement.

Law Enforcement

Year 2 (9512)
3 Credits Grade: 12
Prerequisite: None

Course Description: A Career and Technical program for students interested in Law Enforcement or Criminal Justice. This course provides an opportunity to learn about various aspects of work as Police, Corrections officers, Security guards, and other related career fields, while participating in a law enforcement style fitness program. In year two students learn crime scene investigation, different types of evidence, the laws of arrest, arrest and defense tactics, patrol techniques, traffic investigations and take the NYS security guard license course. The curriculum is presented through classroom instruction, computer-based learning, and hands-on related activities with many guest speakers, demonstrations, field trips, and opportunities to experience the field of law enforcement.

CTE: Computer Technology & Networking

Year 1 (9521)
3 Credits Grade: 11
Prerequisite: None

Course Description: A Career and Technical program that provides a hands on learning experience in Computer Technology and Networking components and functioning. In year one students develop an understanding of computer components and functionality, including motherboards, CPU's, memory, storage devices, firmware, BIOS, partitioning, installation and configuration of operating systems, virus and malware removal, and basic network connectivity and configuration. Practical knowledge is gained as students install, maintain, and upgrade hardware and software on their own work station and then connect that workstation into a network of their design.

CTE: Computer Technology & Networking

Year 2 (9522)
3 Credits Grade: 12
Prerequisite: None

Course Description: A Career and Technical program that provides a hands on learning experience in Computer Technology and Networking components and functioning. Year two is a challenging course focused on networking topics, from fundamentals to advanced applications and services. Students engage in hands-on experiences with firewall and wireless configurations, configuring switches and routers, network cabling, network trafficking, computer data analysis, network security, wireless implementation, and advanced routing and design. Students apply and practice this knowledge through a series of both hands-on and simulated activities that reinforce their learning as they acquire the skills necessary to become Cisco certified.
Eastern Long Island Academy of Applied Technology (A.T.T.) provides intensive training in occupational and technical specialties for students. A.T.T. will be available to seniors only or students with graduating status. Courses meet for three hours per day in well-equipped, training centers and provide students with the practical job skills and experiences needed for entry-level positions or technical college entrance.

A.T.T. offers programs of study that are both one and/or two years in length. Seniors and/or students with graduating status will have the opportunity to take only the first year course of study of any A.T.T. course, whether it is a one or two-year program. Successful completion of a first year program entitles a student to five units of credit. Students may have the option after graduation from high school to complete the second year of study at A.T.T., but that process would not be through the Patchogue-Medford School District, but between the graduated student and A.T.T. (there is a tuition cost that the student will be solely responsible for as a post-secondary education student). Completion of a two-year A.T.T. program may qualify a student for a New York State Occupational Certificate. Successful students can also satisfy time and training requirements needed to take State licensing examinations. Articulation agreements with area colleges may provide advanced standing.

Applicants to A.T.T. programs must have senior status or graduating status and maintain a minimum academic average of 70, have no more than ten unexcused absences (period or full day), have no more than one course failure, and have no out-of-school suspensions. New A.T.T. applicants are required to visit an A.T.T. center prior to submitting an application. The A.T.T. application deadline for the 2019-2020 academic year is, February 28, 2019. Interested juniors may see their counselors for additional information and/or visit the A.T.T. website at www.esboces.org.

Due to contractual obligations to Eastern Long Island Academy of Applied Technology, no student will be able to drop from an A.T.T. program of study once school begins. All drops must take place prior to September. Once students enroll, attendance at A.T.T. will be monitored.
ANIMAL SCIENCE - Techniques in handling, exercising and grooming domestic animals as well as procedures and routines developed for the care, handling and breeding of laboratory animals are included in this course.

ART DESIGN AND VISUAL COMMUNICATIONS - Students will learn the basis of layout and design, drawing, art composition, and color concepts through traditional and digital media while focusing on real design work experiences.

AUDIO PRODUCTION TECHNOLOGY - Students gain exposure to the production techniques of live sound reinforcement, multi-track audio recording, and electronic instrumentation operation and composition basics. Students will play an active role as audio technician, engineer and producer while learning the fundamentals of using industry standard equipment.

AUTO BODY REPAIR AND AFTER-MARKET ACCESSORY - This course prepares students for entry level positions in automotive audio, security, appearance enhancement and detailing fields. Hands-on experience is emphasized. Students are required to dismantle automobile components, straighten metal parts and car frames, straighten dents, use filler compounds, grind, sand and prepare the car for refinishing.

AUTOMOTIVE TECHNOLOGY - This two-year program provides students with basic skills to repair and service automobiles.

AVIATION/PROFESSIONAL PILOT TRAINING - Students will study aerodynamics, power plants, navigation and the impact of weather systems. Some flight time is also provided as a component of this course. Upon completion of this two-year program, students are eligible to receive two credits of Regents-level Science, and one credit of Regents-level Math.

BARBERING - The curriculum is designed to give an overview of the barbering industry, licensing, and the opportunities for professional growth. Students who successfully complete this 500-hour course will be eligible to sit for the New York State Licensing Exam. Students must be at least 17 years of age to take the NYS Barbering Licensing Examination.

CARPENTRY - Students participate in this four-module course to prepare for employment in the multi-faceted construction industry. Roofing, framing and cabinet making, as well as project planning and building code information are reviewed.

CERTIFIED PERSONAL TRAINER - This physical course includes anatomy, kinesiology, injury prevention, supplementation and nutrition, and all aspects of weight and strength training. A world-renowned staff of researchers, scientists, sports medicine specialists, and world champion athletes created the program. This course is specifically designed to bridge the gap between clinical exercise related coursework and the practical application of sound health and fitness programming. Students will have an opportunity to earn a nationally recognized certification from the National Council of Strength and Fitness upon successful completion of the course.

CLINICAL MEDICAL ASSISTING - Students in Clinical Medical Assisting will acquire the technical knowledge and skills needed to perform routine tests and procedures in a clinical laboratory.

COMPUTER SCIENCE AND APP DEVELOPMENT – Students will be exposed to a diverse set of computational thinking concepts, fundamentals and tools, allowing them to gain understanding and build confidence. Students use visual, block-based programming and seamlessly transition to text-based programming with languages such as Python® to create apps and develop websites, and learn how to integrate computers to put their design into practice. This course will also focus on further developing computational thinking skills through the medium and AndroidTM App development for mobile platforms. The course utilizes industry-standard tools such as Android Studio, JavaTM programming language, XML and device emulators. Students collaborate to create original solutions to problems of their own choosing by designing and implementing user interfaces and Web-based data bases.
COMPUTER SERVICE TECHNOLOGY AND REPAIR - This combined course is designed to prepare students with practical experiences and related theory leading to any entry-level position as a Computer Repair Technician. Students will prepare for the A+ Certification exam at the end of the program. The A+ Certification is recognized industry-wide and represents six months of work-related experience. This course is also designed to give students core knowledge of information systems which include digital communication skills such as web design and development, and project management. Students will also be given the opportunity to take Microsoft Technology Associate (MTA) Certification.

COSMETOLOGY - Instruction and practice in hair styling, manicuring, facial make-up, scalp treatment and hair shaping are integral parts of class activity. This course provides the 1,000 hours required to qualify for the New York State examination to obtain a license.

CULINARY ARTS - Direct food handling is an integral part of this two-year course. Students participate in planning, preparing, cooking, and serving food. Baking is provided as a one-year special placement option. This program is accredited by the American Culinary Foundation, which allows students to take the Occupational Competency Testing Institute ACF exam.

DENTAL ASSISTING - Students in the Dental Assisting Program will learn how to work chair-side with dentists, prepare dental materials, perform basic business procedures and take clients’ data, including processing insurance forms. Clinical experience is provided through the State University of New York at Stony Brook.

DRONE TECHNOLOGY – The Federal Aviation Administration (FAA) allows for commercial use of drones. However, the FAA has released regulations which are expected to allow for much broader commercial use and will require pilots using unmanned aerial vehicles for commercial purposes to obtain certification of competence. Anticipating the commercial demand for drone training, this program will provide skills on piloting, engineering, programming and repairing drones.

EARLY CHILDHOOD EDUCATION - Early Childhood Education is a professional training program for students who are considering a career in the field of childhood education.

ELECTRICAL TRADE and ALTERNATIVE ENERGY - Use of the National Electric Code Handbook serves as a foundation for the theoretical and practical work carried on in this program. Students learn to install, troubleshoot and repair electrical wiring systems, motors, generators and control equipment that are used in homes, offices, stores, and factories.

ENGINEERING- An academically rigorous one-year program for college bound high school seniors who plan to major in an engineering discipline.

FASHION MERCHANDISING – This course provides skills and experience in retail operations, merchandising display and apparel design. Students will be able to sew and design industry standard garments, demonstrate the forecasting of fashion and work cooperatively as a team member to produce a fashion show and run a successful retail store.

HEATING VENTILATION & AIR CONDITIONING (HVAC) - Basic introduction includes the installation, service and repair of domestic, commercial and industrial refrigeration, air conditioning, heating, cooling, solar and heat pump systems.

LAW ENFORCEMENT - This is a program for students with an interest in criminal justice, law enforcement, public safety, and other related legal careers. Classroom lectures will be frequently supplemented with field “shadowing” experiences in cooperation with the various police agencies including but not limited to: Suffolk County Police Department, Sheriff’s Department, Nassau County Police Department, and Central Islip Courts. Language Arts and Social Studies competencies will be covered as components of our criminal justice system.

LICENSED PRACTICAL NURSING - Enrollment is contingent upon successful completion of the National League of Nursing Pre-Admission Examination. This 17-month program begins in the student’s twelfth year. In the first year of the program, students will learn the basic nursing skills necessary to care for patients based on the principles of the biological, physical and social sciences. The second phase of the program (September-March), following high school graduation, is a full-time clinical experience in various affiliate hospitals and health-related facilities.
MOTORSPORTS TECHNOLOGY - This course will introduce and reinforce core knowledge in engine, drive, electrical and electronics systems, fabrication processes and forklift operation. Students will obtain skills used in automotive, marine, motorcycle and heavy equipment.

NURSE ASSISTING - This course is designed to develop skills related to the personal hygiene and comfort of the patient, including bathing, positioning, and monitoring of vital signs in health care institutions and private homes.

PHARMACY TECHNICIAN - Enrollment is contingent upon successful completion of the National League of Nursing Pre-Admission Examination. Pharmacy technicians assist licensed pharmacists by completing tasks that do not require the professional judgment of a pharmacist and can be reviewed by a licensed pharmacist to ensure accuracy. The pharmacy technician assists pharmacists in providing effective, appropriate, and safe pharmacy services. The technician may fill medication carts, charge and credit patient accounts, prepare intravenous solutions and inventory narcotics, restock shelves in dispensing unit, enter medication orders into the computer, prepare labels for medications. Other topics include medical terminology, pharmaceutical calculations, drug distribution systems, IV admixture procedures, and medication packaging techniques. Graduates are eligible to take the National Certified Pharmacy Technician Examination.

PHYSICAL THERAPY AIDE – Physical Therapy is a growing part of the medical industry. Physical Therapy Aides are a crucial part of the physical therapy team. They assist physical therapists in delivering quality care to patients. Responsibilities of the Physical Therapy Aide include moving patients from one therapy area to another, preparing and organizing the location for the patient’s session, setting up any needed equipment, assisting with the patient’s treatment session, and fulfilling office and clerical duties such as ordering supplies or contacting patients to set up or confirm appointments. Students will learn theoretical concepts, practice skills and experience first-hand patient skills in a clinical setting.

PLUMBING AND HEATING - This program is designed to instruct students in the installation, service and repair of domestic sanitation systems and domestic heating units.

PROFESSIONAL DIGITAL PHOTOGRAPHY - This course will emphasize the professional applications of photography. In the first year, students will concentrate on small and medium format cameras with assignments that include portraiture, industrial, documentary, advertising, and candid’s. Students will develop and print black and white work and color digital imaging. Second-year students will work with the above equipment in addition to 4 x 5 studio cameras, background scene projection and custom color lab equipment. Encompassed within the curriculum are professional, practical applications of Photoshop and digital photography using professional cameras, scanners, and dye sub printers with P.C. platforms. Students will prepare personal portfolios of their work for employment interviews and college.

TELEVISION, VIDEO & DIGITAL FILM PRODUCTION - This one or two-year program covers the fundamentals of television & studio production, electronic journalism and the use and maintenance of state-of-the-art commercial video/digital equipment.

WELDING/METAL FABRICATION - Oxyacetylene gas and electric welding jobs and techniques provide for entry-level skills. These are developed in areas from heavy ferrous material to highly specialized light metals common to Long Island industry. Welding according to specifications and blueprints are emphasized.

SPECIAL OCCUPATIONAL EDUCATION (SOE) - The Special Occupational Education Program (SOE) is a forty-week BOCES program designed to offer students with disabilities the opportunity to explore more than 20 occupational areas in an atmosphere that emphasizes a “hands-on” approach. The forty-week academic year is divided into two semester-long segments during which the student may explore as many as four occupational areas. If a student demonstrates an aptitude and a desire for a particular area, emphasis can be focused upon that field.
The Business Education program provides students with the opportunity to acquire the skills, knowledge, and experience needed to succeed in college or the workplace by taking business courses and participating in the following business clubs: Corporate Raiders Internship Program, DECA, FBLA, National Business Honor Society, and The Raider Express.

In order to obtain the Career and Technical Education Graduation Credential, students must:
- Earn 3.5 Business Education credits
- Pass a business standardized examination
- Pass Career and Financial Management
- Pass Virtual Enterprise or Advanced Computer Applications

Business Education Career and Technical Education clusters:

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<th>FINANCE &amp; ACCOUNTING</th>
<th>MARKETING &amp; COMMUNICATIONS</th>
<th>LAW &amp; ENTREPRENEURSHIP</th>
<th>CAREER EXPLORATION</th>
<th>COLLEGE PREPARATION</th>
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<td>Personal Law (1/2 Credit)</td>
<td>Business Work Experience</td>
<td>Junior College Seminar (1/2</td>
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College credit may be earned.

Students have the opportunity to earn up to 12 college credits through the BEACON Program at Suffolk County Community College and SUNY Farmingdale. Course credit could be accepted at most SUNY, public and private universities.

*Requirement for CTE Graduation Program Credential

**Please note: students can complete five business classes in lieu of the foreign language requirement.
CAREER & FINANCIAL MANAGEMENT (6024) Half Year       (6023) Full Year - Alternate Days
1/2 Credit    Grades: 9, 10, 11, 12
Prerequisite: None

**Course Description:** This course is a **must have** for all students! This practical course provides students with the opportunity to learn about the essential features of our economy, to explore a variety of careers, and to learn the skills and competencies needed for success in college or the workplace while learning to become financially literate. In addition to creating comprehensive career portfolio, students will learn the process for gaining employment including how to write a résumé and cover letters, complete job applications, engage in job interviews, and be successful in workplace scenarios. Course topics also include personal banking and budgeting.

BUSINESS MATH AND FINANCIAL LITERACY (6020) (60205) (60201)

Full Year
1 Credit    Grades: 11, 12
Prerequisite: None

**Course Description:** In this course, students will learn to apply mathematics effectively as a tool in their personal and business lives. Excel spreadsheets and common mathematical formulas will be used to solve a variety of personal and business mathematics in area such as loans, investments, insurance, income tax, etc. **This course may be used to meet the mathematics requirements for graduation. This course is not recognized as a core curriculum course for the NCAA.**

ACCOUNTING 1 (6050)

Full Year
1 Credit    Grades: 9, 10, 11, 12
Prerequisite: None

**Course Description:** Accounting is not just for those who want to be accountants! If you have ever thought about starting your own business or managing your personal finances, then this course is for you as well. In this course, students will how to record, manage, analyze, and prepare financial information. Accounting is one of the top ten college majors and top ten careers in demand, and not to mention is recession proof! **This course may be used to meet the mathematics requirement for graduation.**

COMPUTER APPLICATIONS FOR COLLEGE AND CAREERS (6072) Half Year       (6073) Full Year - Alternate Days
1/2 Credit    Grades: 9, 10, 11, 12
Prerequisite: None

**Course Description:** Students will develop vital academic and workplace skills necessary to succeed in today’s informational society. Students will expand their skills of communications to include business style presentations using a variety of computer applications (PowerPoint, Prezi, Intulface, Viewlet Builder, etc.). Students will create spreadsheets (using Microsoft Excel), use formulas; buttons and functions to analyze data and solve real world problems. Hands-on activities and exercises are used to emphasize real-world usage and integrate the classroom to college and business.

ADVANCED COMPUTER APPLICATIONS FOR COLLEGE AND CAREERS (6074)

Full Year
1 Credit    Grades: 10, 11, 12
Prerequisite: Career and Financial Management

**Course Description:** Make yourself stand out from all others by taking this course and completing the requirements for a Microsoft Office Specialist (MOS) certification. Students will be expected to think analytically, manipulate information, and use the computer as a productivity tool through integrated Microsoft application programs including Word, Excel, and PowerPoint. Expertise in these applications will contribute to students’ future career mobility, advancement potential, compensation and job satisfaction.
BUSINESS LAW (6120)
Half Year
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Can you tell a real contract form a scam? Students will be introduced to the legal aspects of business and the law that protect individuals and society along with the ethics and legal framework of business contracts. Emphasis on the essential elements of contracts, negotiable instruments, Uniform Commercial Code (UCC) and the working of the court systems. From start to finish, students will gain valuable insight into the legal profession.

PERSONAL LAW (6135)
Half Year
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Knowing your legal rights isn’t just important for lawyer. It’s important for everyone! Students will gain practical knowledge to enable them to protect their rights as consumers and employees. Topics include New York State laws regarding marriage and divorce, automobile and home insurance, buying and renting a home, employment protection, wills and estates, copyright and Internet laws.

MARKETING AND SALESMA NSHP (6110)
Full year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Learn how to market yourself, your product, or your profession! Students will gain valuable experience in marketing and managing businesses while emphasizing the creative selling techniques used by professional salespeople. From product concept to consumer, students will apply the marketing tools to create successful sales campaigns. Effective social media advertising practices and business etiquette will be emphasized.

HOSPITALITY, TOURISM, RECREATION (6140) ** New Course for 2019-2020
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description – Business is booming in downtown Patchogue and across the nation! Learn about the $7.6 trillion hospitality, tourism & recreation industry and how you can be a part of it. This course provides students an overview of the industry, its growth and development, industry segments and their distinguishing characteristics, trends and current concerns. Other topics include the history, political, social and cultural impacts tourism have on local, state and global environments. A section of the course is devoted to the State of New York Tourism environment. Students will review marketing, motivation and other forces that draw guests to Long Island and the State of New York. Students are introduced to career opportunities and the employability skills needed to succeed in specific hospitality fields.

FASHION MARKETING (6145)
Full Year- Alternate Days
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Fashion Marketing addresses the retail, marketing, manufacturing and distribution needs of fashion merchandising. This class allows students to study trends and consumer behavior while developing necessary skills in marketing, managing, and organizing a fashion retail facility. Focus areas for this class include class work in fashion history and design, manufacturing and sales, providing a foundation in the evolution of the apparel industry. Students will explore consumer behavior and its role in driving fashion trends and purchasing patterns. Activities include visual display design, marketing, buying, and advertising.
FASHION DESIGN AND MARKETING (6150) ** New Course for 2019-2020
FULL YEAR
1/2 Credit Art  1/2 Credit Business  Grades 9, 10, 11, 12
Prerequisite: None
Course Description: From the runways of Paris and Milan, to the retail stores of Patchogue and Medford, fashion is all around us. If you are a creative individual that loves fashion, then this is the course for you! This course will introduce you to fashion industry standards in design, creativity, and illustration while you simultaneously acquire a knowledge base in fashion marketing. This dual Art and Business department course, taught by two teachers who specialize in these two areas, combines the best of both worlds! You will gain knowledge and experience from guest speakers, attending field trips to various wholesalers and museums in the NYC garment district, and using industry software and technology. You will create a portfolio and showcase your design and marketing skills in the Senior Fashion Show as well as a host of other venues.

VIRTUAL ENTERPRISE (6155)
Full Year
1 Credit  Grades: 11, 12
Prerequisite: None
Course Description: Are you ready to manage an online business and compete with over 7,500 virtual businesses worldwide? Virtual enterprise is a simulated business that is created and run by students. Using simulation software, students experience all facets of an actual business environment. Students are involved in every aspect of running a business, including human resources, accounting, marketing, product development, and sales. Virtual Enterprise will culminate with the grand experience of creating a trade show display, prototypes and competing at the Chelsea Piers International Trade Show in NYC. Upon completion of this course students will take the NOCTI exam. *Please note this course receives honors weighting.*

SPORTS MARKETING MANAGEMENT
(6225) Half Year
(6226) Full Year- Alternate Days
1/2 Credit  Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Want to create your own sports team? Students will have the opportunity to become the next Mark Cuban or Jerry Jones by creating their own franchise - from designing the team’s logo to building a brand. This course stresses the utilization of fundamental marketing concepts of corporate sponsorships, sports promotion, team management, player contracts, player endorsements, and multimedia advertising. Case histories will be studied to illustrate how sports marketing is used to increase business profits by reaching key target markets.

SENIOR COLLEGE SEMINAR (6236)
Half Year
1/2 Credit  Grade: 12
Prerequisite: None
Course Description: Is the college search and application processes stressing you out? Or just need help navigating the process? If yes, this course is for you. Students will develop knowledge, attitudes, and skills necessary to improve their chances of being accepted to the college of their choice and for succeeding in the college environment. Topics include navigating Naviance, conquering the admission process, building a career path, critical analyzing and self-assessing abilities and interests, understanding financial aid, improving study skills, and understanding the responsibility of independent living. Activities include extensive college searches for “safe, realistic, and reach” schools, preparing a resume for admission, writing the college essay, completing college applications, and an in-class college fair project. Throughout the semester, guest speakers from a variety of colleges and universities will visit the class to provide insight into the college acceptance “game” and discuss their requirements for admission.
JUNIOR COLLEGE SEMINAR (6235)
Half Year
1/2 Credit  Grade: 11
Prerequisite: None
Course Description: Jump start the college application process! Interested in having a stress free senior year? Students will develop knowledge, attitudes, and skills necessary to improve their chances for success in the college environment. Topics include navigating Naviance, conquering the admission process, building a career path, critical analyzing and self-assessing abilities and interests, understanding financial aid, improving study skills, and understanding the responsibility of independent living. Activities include extensive college searches for “safe, realistic, and reach” schools, preparing a resume for admission, writing the college essay, completing college applications, and an in-class college fair project. Throughout the semester, guest speakers from a variety of colleges and universities will visit the class to provide insight into the college acceptance “game” and discuss their requirements for admission.

CORPORATE RAIDER INTERNSHIP PROGRAM (6245)
Half Year
1/2 Credit  Grades: 11, 12
Prerequisite: This program is recommended for seniors or juniors with a >= 85 average and the permission of the internship coordinator.
Course Description: Whether an internship in business, medicine, graphic design, architecture, veterinary medicine, law, communications, art, education, fashion, psychology, engineering or public service careers, the coordinator assists students in securing fantastic opportunities to not only gain invaluable work experience but also to gain the contextual knowledge colleges value most. Highlights of the program include participation in the School-to-Career Programs, Career Connections Exploration Day, Shadowing Day, community service, HR Experience -- Interview Panel, Business Management Contest, and Mentor Appreciation efforts. Students involved in this program must strictly adhere to the regulations regarding dress, etiquette, academic eligibility and excellent attendance. Transportation to and from the internship site is the responsibility of the student intern. Certain specific career fields are subject to course prerequisites and availability. This program is offered before and after school.

BUSINESS WORK EXPERIENCE (6250)
Full Year
1 Credit  Grades: 10, 11, 12
Prerequisite: None
Course Description: Students enrolled in any Business course may obtain work experience credit for working in an office, restaurant, warehousing, construction or retail organization. Students employed 300 hours on an approved job for eight months earn 1 unit of credit. These experiences can provide credit toward graduation, increase opportunities for employment and increase students' knowledge of business skills.

BUSINESS WORK EXPERIENCE (6255)
Half Year
1/2 Credit  Grades: 10, 11, 12
Prerequisite: This program is recommended for seniors or juniors with a 90 or better GPA who have completed the Corporate Raider Internship Application and Recommendation Process.
Course Description: Students enrolled in any business course may obtain work experience credit for working in an office, restaurant, warehousing, construction or retail organization. Students employed for 300 hours or more on an approved job for eight months may earn 1 unit of credit. These experiences can provide credit toward graduation, increase opportunities for employment and increase students' knowledge of business skills.
BEACON HONORS COLLEGE ACCOUNTING (6210)

Full Year (SCCC Credit) (ACC 101, 3 Credits)
1 Credit Grades: 11, 12
Prerequisite: None

Course Description: College bound students will gain accelerated and in depth training in the recording and interpreting of financial records of various business enterprises. Students will be prepared for advanced placement in college accounting and business administration programs or post high school employment as a bookkeeper, accountant, auditor or tax preparer. Students will actively engage in a simulated Stock Market Game to analyze how an accounting background can be important to all aspects of business. This course provides an excellent foundation for students who plan to attain a college degree in any business major. This course may be used to meet the mathematics graduation requirement. This course is not recognized as a core curriculum course for the NCAA. Students may choose to register with Suffolk County Community College to take this course for 3 college credits through the BEACON Program. Please refer to page 8 for BEACON information (tuition and due dates).
Course Sequences

Grade 8
- Grade 8 Math
- Algebra I CC

Grade 9
- 3241 Robotics and Animation Programming
- 3250 Web Design/Java Programming

Grade 10
- 3320 AP Computer Science A
- 3327 AP Computer Science Principles

Grade 11
- 3320 Advanced Data Structures

Grade 12
- 3325 Advanced Data Structures

ROBOTICS AND ANIMATION PROGRAMMING (3241)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: >= 80 final average in Algebra I OR >= 80 final average in Math 8R and teacher recommendation.

Course Description: Students will explore the exciting world of computer programming by being introduced to fundamental programming concepts using the high-level languages of Terrapin Logo graphics, ALICE, and Lego Mindstorms. Terrapin Logo is a full-featured computer language that is designed to support constructive learning. The student will gain practical experience in “turtle graphics” and will be exposed to beginning level programming at the same time. This course is also an introduction for learning with ALICE Animation. Students will create animation projects using Alice, a software package for creating animation in small virtual worlds using 3D models in Pixar and Disney animation style. Students will also learn ROBOTICS using Lego Mindstorms and Robot-C to introduce the way computers control motors and sensors to make things move, light up and make sounds. Actual hands-on designs will be programmed, documented and constructed using a team approach. This course is the first in a sequence of four Computer Science courses offered at Patchogue-Medford HS.

WEBSITE DESIGN AND PROGRAMMING IN JAVA (3250)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: >=80 final average in Algebra I.

Course Description: This course is designed for students interested in coding and designing websites and learning the internet programming language Java. The first half of the course is devoted to website design. Using Hyper-Text Markup Language (HTML), students will learn the code that produces the data on websites. Students will also learn to style their HTML with Cascading Style Sheets (CSS). Students will be using the most up-to-date technology to code compelling web pages, including Adobe Photoshop basics for web design. The second half of the course is devoted to learning programming in the computer language Java. Topics covered will include: input, output, looping methods, swing and the beginnings of object-oriented programming. This course is a prerequisite for the Advanced Placement Programming course and therefore is considered college preparatory and a great senior year course.

ADVANCED DATA STRUCTURES (3326)
Full Year
1 Credit Grades: 11, 12
Prerequisite: Teacher recommendation or departmental approval.

Course Description: This course is equivalent to a second semester college-level programming course. It is possible to take this course during the same year as AP Computer Science with instructor approval. This course is a formal in-depth study of algorithms, data structures (including dynamic structures) and object oriented programming using the Java programming language. Topics will include pointers, advanced sorting and searching, trees and linked lists. Students will also learn advanced Graphical User Interface programming using Java Swing components. This type of programming is a precursor to App development.

ADVANCED PLACEMENT COMPUTER SCIENCE A (3321)
Full Year
1 Credit Grades: 10, 11, 12
Prerequisite: Teacher recommendation or departmental approval.

Course Description: This course is equivalent to a first semester college-level Computer Science course. Problem solving and algorithm design will be emphasized. Basic computer programming concepts of input, output, conditionals, looping, functions, sorting, searching, advanced data structures and object oriented programming with classes will be covered. The programming language used will be Java. College credit may be received for grades of three or higher on the Advanced Placement examination taken in May. All students enrolled in this class are expected to take the College Board AP exam.

ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES (3327)
Full Year
1 Credit Grades: 11, 12
Prerequisite: Advanced Data Structures or departmental approval.

Course Description: This course is a full year college level Computer Science course. AP Computer Science Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. The course covers a broad range of topics such as programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing. With a unique focus on creative problem solving and real-world applications, AP Computer Science Principles prepares students for college and future careers in any STEM discipline involving problem solving and creativity. Students will use App Inventor or SNAP to solve real world problems by developing Android APPs. A multitude of colleges have signed on to grant college credit for a passing grade on the AP exam. All students enrolled in this class are expected to take the College Board AP exam which includes two performance tasks that will be submitted as part of their exam.
All students must earn four English credits for graduation, one per grade.

- **Grade 9**
  - 9 Regents
  - OR
  - Pre-AP English 1

- **Grade 10**
  - 10 Regents
  - OR
  - English 10 H (Pre-AP English 2) Pending Approval

- **Grade 11**
  - 11 Regents
  - OR
  - AP Language & Composition

- **Grade 12**
  - 12
  - OR
  - AP Literature & Composition

** All students must take a full year (one credit) of English in grade 12

**Electives in English**

- Creative Writing
- Theatre
- Journalism
- Communications and Broadcasting
- Western Philosophy
- Eastern Philosophy
- Heroes & Villains: Adventures in Fantasy
- Suspense and the Supernatural
- Silenced Voices in Literature
- AP Seminar Year One of AP Capstone
- AP Research Year Two of AP Capstone

Half Credit
Full Credit
ENGLISH 9 (1000) (10000) (10001) (10005) (10401)
Full Year  NCAA approved course
1 Credit  Grade: 9
Prerequisite: None
Course Description: Regents English 9 is a full-year course designed to build on the literacy skills students have learned in earlier grades. The course builds upon the variety of genres studied in middle school literature as well as the range of writing genres applicable to that literature. The course is entitled “Understanding Self through Life Experiences,” and is organized by thematic units such as Coming of Age/Self Realization, Betrayal, and Loss of Innocence, among others. Teachers select literary works from those designated for English 9 that will provide ample avenues for exploring each theme. Novels, poetry, and short stories are taught independently of each other as well as in combination to afford students a range of opportunities to explore these universal themes. Beginning research skills suitable for the high school level are taught. Throughout the year, students work on improving their skills on the elements of the Comprehensive English Regents, which they will take in grade 11. Major works studied may include The Outsiders, Romeo and Juliet, and the Odyssey, among others. All elements of this course are aligned to state standards.

PRE-AP ENGLISH 1 (1011)
Full Year
1 Credit  Grade: 9
Prerequisite: None
Course Description: This course will focus on the instructional shifts of: Close readings of texts where students analyze a range of complex literary and informational texts. Valuing evidence by incorporating it effectively in writing and speaking. Focusing on attention to language where students study how speakers use specific words and sentences to move the thoughts, emotions and actions of readers and listeners. All elements of this course are aligned to state standards.

ENGLISH 10 (1020) (10200) (10201) (10205) (10421)
Full Year  NCAA approved course
1 Credit  Grade: 10
Prerequisite: Successful completion of English 9
Course Description: Regents English 10 is a full-year course entitled, “The Human Experience.” Students will continue to apply the literacy skills they have acquired as the works they read increase in difficulty. As in grade 9, literature study is organized into thematic units such as “Psychological Warfare,” “Coming of Age,” and “Survival.” Teachers choose appropriate literary works for each unit from those designated for grade 10, mixing genres to fully illustrate those themes. Students will continue to focus on preparation for the Regents. Building on the basic research skills introduced in grade 9, students are required to demonstrate understanding of additional components of a research project/paper. Major works studied include Speak, Lord of the Flies, Night, and Macbeth. All elements of this course are aligned to state standards.

HONORS ENGLISH 10 / PRE-AP ENGLISH 2 (1031) contingent on the release of College Board course outline.
Full Year
1 Credit  Grade: 10
Prerequisite: Successful completion of English 9
Course Description: This course is a continuation and also aligns itself with interdisciplinary nature of Pre AP English 1. It is intended to prepare students for advanced study in English. This course is intended to prepare advanced study in English. It parallels the Regents English course, while requiring more complex reading assignments such as Tale of Two Cities, 1984, and/or Animal Farm. More complex writing assignments and advanced work beyond the scope of the Regents level course is expected. All elements of this course are aligned to state standards.
ENGLISH 11 (1120) (11200) (11201) (11205) (11501)
Full Year          NCAA approved course
1 Credit          Grade: 11
Prerequisite: Successful completion of English 10.

Course Description: English 11 is an in-depth study of American literature entitled “The American Experience and Beyond.” Units are organized thematically, as they are in the lower grades. Units such as “Chasing the American Dream,” “Nature as a Destructive Force,” and “Social Injustice” are among those taught during the year, concentrating upon interpretation of novels, short stories, plays, and poems. The writing segment of the program stresses the principals of organization and logical development and the use of a variety of craft techniques. The previous instruction in research skills is enhanced by requiring students to demonstrate competence in additional components of a research paper. Preparation for all tasks on the English Regents is done throughout the school year as all 11 graders are scheduled to take the exam in June. Major works studied may include The Crucible, Of Mice and Men, The Catcher in the Rye, and Monster. All elements of this course are aligned to state standards.

ADVANCED PLACEMENT ENGLISH LANGUAGE AND COMPOSITION (1315)
Full Year          NCAA approved course
1 Credit          Grade: 11
Prerequisite: Teacher/Director recommendation.

Course Description: Advanced Placement Language and Composition is a forty-week course designed to offer students the opportunity for advanced study in language and the art of writing. It is a college-level course, including preparation for the Advanced Placement examination in English offered by the College Board. Focus will be on the style, structure and content of major selections of literature, as well as the work of language theorists. Students will explore all aspects of writing, building from the multiple meanings of a single word, through the various possibilities of sentence construction, to the structuring of the paragraph and essay. In addition, students will be required to complete a research project. Throughout the course, students are encouraged to develop an individual style that is adaptable to different occasions, purposes, and audiences. Because the underlying philosophy is that writers must be readers as well, reading selections will be varied, drawn from all genres. Students will also complete a designated final project in June. All students enrolled in this class are expected to take the State ELA Regents in June as well as the College Board AP Exam. There is a required summer assignment.

ENGLISH 12 (1260) (12600) (12601) (12605) (11521)
Full Year          NCAA approved course
1 Credit          Grade: 12
Prerequisite: Successful completion of English 11.

Course Description: It is designed to align with the College and Career readiness skills needed by all graduating students. The course includes two primary strands: Composition and Literature. In addition, technology will serve as an integral element of English 12. All students will be required to complete at least two research projects prior to graduation. The Composition strand will include the successful completion of a research-based project, as well as writing assignments showing evidence and creativity. Writing assignments may be linked to works of non-fiction, fiction, poetry, etc. The Literature strand may infuse segments of the Composition strand e.g. writing assignments. However, the primary focus of the Literature strand will be the study of at least four full-length works. The Literature strand will also include the successful completion of a research project.

ENGLISH 12 (1261) (1262)
Half Year- Fall    NCAA approved course
1/2 Credit         Grade: 12
Prerequisite: Successful completion of English 11.

NOTE: English 12 (1261, 1262), Literature and Composition Strands, will run concurrently in order to accommodate students who are planning an early graduation.

Course Description:
Analysis of Text: This course will focus on literature and analysis of text. Students will read Hamlet and one novel. Additionally, the units of study will be supplemented with short stories, poetry, and nonfiction companion texts. Students will develop close reading skills and draw conclusions about universal themes related to the readings. This course is for the student expected to graduate in January and students will also be enrolled in English 12: Composition to complete the required full-credit of English 12.

Composition: This is the companion course for English 12 Analysis of Text. Students will develop writing skills necessary for their post-secondary experience. Focus will be on prewriting, development of craft, and editing skills. Students will develop a portfolio that consists of work revised through the semester: letters of complaint, letters of request, letters to the editor, research paper for college. This course is for the student expected to graduate in January and it will prepare students for entrance into college and/or the business world.
ADVANCED PLACEMENT ENGLISH LITERATURE AND COMPOSITION (1320)
Full Year NCAA approved course
1 Credit Grade: 12
Prerequisite: Teacher/Director recommendation.

Course Description: This is a rigorous forty-week course designed for the above average senior student in English. It is a college-level course, including preparation for the AP examination. Students will read the works of recognized authors such as Shakespeare, Austen, Dickens, and Shelley. They will become familiar with the terminology and techniques of literary criticism, and they will learn to analyze the elements of literature such as plot, character, point of view, setting, theme and imagery. In addition, students will gain experience in demonstrating the techniques of composition. The course requires a speech component including oral presentations. Interested students should consult their eleventh grade English teacher and counselors as part of their decision-making process. There is a required summer reading assignment. All students enrolled in this class are expected to take the College Board AP exam.

ENGLISH ENTERING (13401, 13402)
Full Year
1 credit Grades: 9, 10, 11, 12
Prerequisite: Level placement per NYSITELL/NYSESLAT

Course Description: This course is designed to provide instruction in English Language Arts to those students who demonstrate an entering proficiency with English. This course introduces paragraph writing practice. Additionally, students will read adapted literature, non-fiction articles and poetry with themes and topics that parallel the grade appropriate ELA program.

ENGLISH EMERGING (13501, 13502)
Full Year
1 credit Grades: 9, 10, 11, 12
Prerequisite: Level placement per NYSITELL/NYSESLAT

Course Description: This course is designed to provide instruction in English Language Arts to those students who demonstrate an emerging proficiency with English. This course introduces essay writing practice. Additionally, students will read novels, short stories, non-fiction articles, and poetry with themes and topics that parallel the grade appropriate ELA program.

ENGLISH TRANSITIONING (13601, 13602)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: Level placement per NYSITELL/NYSESLAT

Course Description: This course is designed to provide instruction in English Language Arts to those students who demonstrate a transitioning proficiency with English. This course expands upon essay writing practice. Additionally, students will read novels, short stories, non-fiction articles, and poetry with themes and topics that parallel the grade appropriate ELA program. Additionally, for students in grades 11/12, there will be emphasis on preparation for the English Regents.

ENL INTENSIVE ELA 9 (55752)
Full Year
1 credit Grades: 9, 10
Prerequisite: Level Placement per NYSITELL/ NYSESLAT and MLS

Course Description: This one-year course is designed to provide intensive instruction in English Language Arts and foundational literacy skills, build conceptual knowledge across content areas, and explicitly develop academic language, literacy and habits of mind. Additionally, students will read adapted literature, non-fiction articles, and poetry with themes and topics that parallel the grade appropriate ELA program.
ENGLISH ELECTIVES

*Electives may not be used to fulfill the Grade 12 English requirement for graduation.

*EASTERN PHILOSOPHY (1255)
Half Year  NCAA approved course
1/2 Credit  Grades: 11, 12
Prerequisite: None
Course Description: As our global awareness continues to expand, it is increasingly important to understand the thought processes and philosophical dispositions reflected in Eastern thought. Students will be introduced to the questions and answers articulated by traditions such as Hinduism, Buddhism, and possibly even Taoism and Confucianism. Reading, analyzing, and discussing these culturally defining ideas will culminate in an assortment of writing assignments. There will be a final project due at the end of the course.

*WESTERN PHILOSOPHY (1280)
Half Year  NCAA approved course
1/2 Credit  Grades: 11, 12
Prerequisite: None
Course Description: What is truth? Throughout the ages writers and philosophers have asked this question and others in an attempt to define reality. Students in this course will be introduced to both questions raised and the responses offered by major Western philosophers and writers. In addition, students will have an opportunity to read, react to, discuss, and write about these theories in light of their own experiences. There will be a final project due at the end of the course.

*THEATRE (1220)
Half Year
1/2 Credit  Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Students will explore theatre basics including stage terminology, audition procedures, improvisational skills, stage production, and performance. This course not only offers students an opportunity to get an overview of the performing arts, but also brings together groups of diverse students and sheds light on our shared human experience, and in the process teaches students self-awareness, self-expression, discipline, compassion, and self-confidence. Throughout the course, students will work collaboratively to read and evaluate literature for the purpose of choosing monologues and/or scenes to be performed. All students engage in various reading and writing assignments in connection to theatrical production and performance. The culminating project for this course is performance and written analysis of selected material and may include an audience.

*CREATIVE WRITING (1235)
Half Year  NCAA approved course
1/2 Credit  Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course provides instruction in the elements of style and form. In addition, students acquire necessary real-world skills in written and oral self-expression. Various literary genres are first explored and analyzed. Students are then required to produce the writing forms of fiction, non-fiction, poetry, etc. Discussion, criticism, and analysis of student writers' works are a requirement for the workshop. Successful completion of the course is determined by teacher evaluation of student creative writing projects and completion of a writing portfolio.

* JOURNALISM AND JOURNALISM II, III & IV (1250) (1252) (1253) (1254)
Full Year-Alternate Days  NCAA approved course
1/2 Credit  Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: In this course, we will explore the world of media – newspapers, social media, magazines, and broadcasts as a means to report about people and events that shape our lives. You will learn what professional reporters know, which is: how to search for the truth, how to investigate a news story, how to interview personalities, and how to turn notes into a news story. Students are expected to complete a minimum of two projects including a final exam. All students will be participating in writing for the school newspaper, The Red and Black. This course may be repeated in multiple grade levels.
**HEROES AND VILLAINS: ADVENTURES IN FANTASY (1295)**

**Course Description:** The foundations of fantasy literature rest with the age-old tales of the struggle between heroes and villains. Luke Skywalker and Darth Vader, Harry Potter and Lord Voldemort, Dorothy and the Wicked Witch of the West, to name just a few. In this course, students will closely study the dynamics of heroes and villains from as early as European fairytales to the modern graphic novel anti-hero. Using both fairytale and mythological archetypes, students will examine the various journeys made by heroes as they struggle to overcome whatever villain (whether internal or external) stands in their way of victory.

**SUSPENSE AND THE SUPERNATURAL (1290)**

**Course Description:** How does the heart of human nature shape our questions and develop our fears? What makes us question the unknown and search for the truth? What makes us shiver with those things that go bump in the night? Why is it that we are intrigued by the questions that have no answer? What drives us to be thrilled by that which frightens us? This class will be a study in those ideas and more through the study of short stories, novellas, and film. Explore the darkness within and around us and all that is unknown. Authors to be studied include: Edgar Allan Poe, Agatha Christie, Ray Bradbury, Bram Stoker.

**SILENCED VOICES IN LITERATURE (1210)**

**Course Description:** This course explores literature written by those that society has aimed to keep silent. Focusing on literature not often taught in regular curriculum, this class works to understand the experiences of diverse authors and the social, political and economic factors that worked to influence their writing. Students will be exposed to a variety of literature from Afro-American, multicultural, feminist, and LGBTQ authors, in hopes of understanding the causes and symptoms of inequity in our society. The course will focus on literature outside the literary canon such as works from authors: Sandra Cisneros, Maya Angelou, Zora Neale Hurston, Gertrude Simmons Bonnin, Virginia Wolf, James Baldwin, Langston Hughes, Annie Proulx and Monique Wittig.

**COMMUNICATIONS AND BROADCASTING (1251)**

**Course Description:** Want to gain the skills to get you ahead in college, the business world, or to advance in media? What skills are required to be an effective communicator? How can social media be a tool for effective communication? Public speaking and presentation styles will be practiced to help develop communication skills. This class will prepare you to be presentation ready. We will use project based learning; students will be expected to present in front of their peers and to be filmed for school broadcasts.

**LITERATURE TO FILM (1286)**

**Course Description:** Students will explore various works of literature and their film adaptation. Students will explore the themes: The Concept of “Auteur,” (Rear Window) and Censorship and Adaptations (sections of Psycho). Students will also explore secondary themes which may include: Creating an American Classic Crime (The Godfather), and The Novella: Stephen King the most adapted author (The Shawshank Redemption). After studying a theme student will write a culminating essay. Parents and students should be aware that this course contains mature materials.
*AP SEMINAR (Year One of AP Capstone) (2310)

**Full Year**  
NCAA approved course

**1 Credit**  
Grades: 10, 11, 12

**Prerequisite:** Living Environment Honors or Chemistry Honors with a final average >= 80. Global History 1, Honors, teacher recommendation and director approval

**Course Description:** This is the foundational course of the 2-year AP Capstone Program. It will provide students with the opportunities to think critically and creatively, research, explore, pose solutions, develop arguments, collaborate and communicate through various media. Students read articles, research studies, and foundational and philosophical texts; listen to and view speeches, broadcasts and personal accounts; and experience artistic and literary works to gain an understanding of issues. There is a team project and presentation as well as a research based essay and presentation. Students will write for the *Concord Review* and participate in History Day. **There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.**

*AP RESEARCH (Year Two of AP Capstone) (2311)

**Full Year**  
NCAA approved course

**1 Credit**  
Grades: 11, 12

**Prerequisite:** Successful completion of AP Seminar

**Course Description:** AP Research allows students to deeply explore a scientific academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year-long science research-based investigation to address a research question. In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of 4000-5000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense. **There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.**
HEALTH EDUCATION
(4510) Half Year  (4511) Full Year - Alternate Days  1/2 Credit  Grades: 10, 11, 12
Prerequisite: None
Course Description: Health Education is instruction in concepts, understandings and behaviors that cover several dimensions of health. Instruction covers mental health, nutrition and fitness, drugs, alcohol and tobacco, safety, disease prevention and control, environment and public health, consumer health, family life education, and other health-related areas. Within each content area students examine their behavior, identify alternate behaviors and evaluate the effect of continuing a particular behavior with respect to its benefits and/or consequences. This process for examining and evaluating behavior is intended to promote quality living and a healthy lifestyle. Students will develop skills to apply the knowledge learned to create an optimal quality of health. Guest speakers, field trips, class meetings and team building activities are used to enhance student understanding. Community resources supplement content areas.

HEALTH SKILLS
(45115) Half Year  (45105) Full Year – Alternate Days  1/2 Credit  Grades: 11,12
Prerequisite: None
Course Description: Health for Life Skills will provide instruction for students in the 11/12 Life Skills program. Course will be designed to provide life skills for students including but not limited to: hygiene, nutrition, conflict resolution, mental health and age/skill appropriate material pertaining to health education and aligned with NYS and National Standards.
DEPARTMENT OF WORLD LANGUAGES
Ms. Dali Rastello
Director of English as a New Language, World Languages and Bilingual Programs

The goal of the World Languages program is to provide students with an opportunity to understand and appreciate other languages and cultures. Learning another language is not just grammar and vocabulary: it is learning and expanding new sounds, expressions and perspectives. Knowledge and use of another language provides the student with a skill that can be used as a tool to compete in the work force locally, nationally and internationally. Learning another language is a life-long enrichment.

Seal of Biliteracy: The Patchogue Medford High School is pleased to announce participation in the New York State Seal of Biliteracy program for the 2018-2019 academic year. Patchogue Medford High School students who can demonstrate language mastery in both English and any other language may apply to the Seal of Literacy program as early as their junior year. Participation in this program is voluntary.

French/Italian * Course Progression

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<th>Grade 9</th>
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<td>French 2</td>
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Spanish Course Progression

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<tr>
<td>Spanish 2</td>
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<td>Spanish 4 Honors</td>
<td>AP Spanish Language and Culture</td>
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*Note: Students can concurrently take a high school French (or Spanish) course and begin (or continue) the sequence in Italian. They can, alternatively, begin the sequence in Italian after successfully completing level 3 of French or Spanish.

**Note: Pending staffing and enrollment availability.
FRENCH 2 (5020)
Full Year  
1 Credit  
Prerequisite: French 1  
Course Description: In this course, the student continues to develop listening, speaking, reading, writing of the French language while also learning about the Francophone world. Structural patterns of the French language become more sophisticated at an intermediate level. Focus is on using communicative proficiency and fluency in real life situations.

FRENCH 3 (5030)
Full Year  
1 Credit  
Prerequisite: French 2  
Course Description: In this third level, students continue to develop and improve their language skills. Particular emphasis is given to the mastery of the basic structural patterns, vocabulary building and the application to speaking and writing. Students will work with extensive reading comprehension passages, dialogue and paragraph construction relating to real life situations. The course culminates with the FLACS B Local Assessment; which leads to an Advanced Regents Diploma.

FRENCH 4 (5040)
Full Year  
1 Credit  
Prerequisite: Successful completion of French 3 and teacher recommendation  
Course Description: This course develops skills that focus on meaningful personal communication. This course will enable the student to develop the multiple skills necessary for proficient and fluent communication through an exploration of the more complex points of expression used in the French language. Students will; (1) engage in conversations on a wide variety of relevant topics; (2) understand essential points of spoken speech delivered at moderate speed; (3) comprehend literature and selected general reader non-technical prose; (4) compose refined passages that incorporate advanced structural patterns and vocabulary. Emphasis will be placed on relevant oral communication and project based learning.

**FRENCH 5 (5050)**
Full Year  
1 Credit  
Prerequisite: Successful completion of French 4 and teacher recommendation  
Course Description: This course will further develop effective communicative proficiency leading to correct, accurate expression in the four skill areas of listening, speaking, reading and writing. Selected topics from the New York State syllabus in modern languages, selected French readings and other authentic language sources will enhance the understanding of language. Upon the successful completion of the course, students will be able to handle diverse communication situations with confidence. *Pending staffing/enrollment.

SPANISH 1 (5110)
Full Year  
1 Credit  
Prerequisite: None  
Course Description: This course is an introduction to the Spanish language and to the global cultures of the people who speak it. Students develop basic skills in speaking, listening, reading and writing. In this first year, emphasis is placed on developing accurate pronunciation, acquiring basic vocabulary, structural patterns and verbal communication related to real life situations. The course culminates with the Local FLACS A assessment.

SPANISH 9 Cultural Awareness (5109)
Full Year  
1 Credit  
Prerequisite: Recommendation  
Course Description: This course is an introduction to the Spanish language and to the global cultures of the people who speak it. Students develop basic skills in speaking and listening skills as well as the cultures of various Spanish speaking countries. This class would satisfy the New York State language requirement of one credit for graduation. Students enrolled in this class would not continue in a language sequence.
SPANISH 2 (5120)
Full Year   NCAA approved course
1 Credit     Grades: 9, 10, 11
Prerequisite:  Spanish 1
Course Description: Students continue to develop the four skill areas: listening, speaking, reading, and writing of the Spanish language. Basic structural patterns become more sophisticated at an intermediate level. Focus is on using communicative proficiency and fluency in real life situations.

SPANISH 3 (5130)
Full Year   NCAA approved course
1 Credit     Grades: 10, 11, 12
Prerequisite:  Spanish 2
Course Description: In this third level, students continue to develop and improve their language skills. Particular emphasis is given to the mastery of the basic structural patterns, vocabulary building and its application to speaking and writing. Students will work with extensive reading comprehension passages, dialogue and paragraph construction relating to real life situations. The course culminates with the FLACS B Local Assessment, which leads to an Advanced Regents Diploma.

SPANISH 4 (5140)
Full Year   NCAA approved course
1 Credit     Grades: 11, 12
Prerequisite:  Successful completion of Spanish 3 and teacher recommendation.
Course Description: This course develops skills that focus on meaningful communication. Students will explore the more complex points of expression within the Spanish language. They will gain greater ability to; (1) engage in conversations on a wide variety of relevant topics; (2) understand essential modalities of spoken Spanish delivered at moderate speed; (3) comprehend some literature and some general reader non-technical prose; (4) write coherent paragraphs in the form of summaries and descriptions; and (5) handle routine social situations in a culturally correct manner.

SPANISH 4 HONORS (5144)
Full Year
1 Credit     Grades: 10, 11, 12
Prerequisite:  => 90 in SPANISH 3 and FLACS B exam, teacher recommendation, approval by Director.
Course Description: The Spanish Pre-AP course is designed to provide students with basic exposure to the content and skills addressed by the subsequent AP Spanish Language and Culture course. This course provides students with opportunities to demonstrate their proficiency in each of the three modes of communication (interpretive, interpersonal, and presentational) in the intermediate range, as described in the ACTRL Performance Guidelines for K-12 Learners. Language structures are addressed in as much as they serve the communicative task and not as an end goal unto themselves. This course develops students’ awareness and appreciation of cultural products, both tangible and intangible; practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions that underlie both practices and products). In order to best facilitate the study of language and culture, this course is taught exclusively in Spanish.

BEACON ADVANCED SPANISH CONVERSATION AND COMPOSITION (5145)
Full Year   NCAA approved course  (SCCC Credit) (SPN 220, 3 Credits)
1 Credit     Grades: 11, 12
Prerequisite:  => 85 average in Spanish 4, teacher recommendation, speaking and writing assessments prior to course registration.
Course Description: This portfolio based course takes the place of Spanish 5. All topics will be enhanced by the students’ active involvement. Authentic literature will be incorporated in the course. A major portion of the class will be devoted to individual oral presentations and developing writing skills. Students may choose to register with Suffolk County Community College to take this course for 3 college credits through the BEACON Program. Please refer to page 8 for BEACON information (tuition and due dates).
AP SPANISH LANGUAGE AND CULTURE (5150)
Full Year
1 Credit
Grades: 11, 12
Prerequisite: Successful completion of Spanish 4, Spanish 4 honors or NLA 3-4 and teacher recommendation
Course Description: The AP Spanish Language and Culture course emphasizes communication (understanding and being understood by others) by applying interpersonal, interpretive, and presentational skills for real-life situations. This includes vocabulary usage, language control, communication strategies and cultural awareness. The AP Spanish Language and Culture course strives not to overemphasize grammatical accuracy at the expense of communication. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. The AP Spanish Language and Culture course engages students in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products (e.g., tools, books, music, laws, conventions, institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions).

NATIVE LANGUAGE ARTS 1 (5116)
Full Year
1 Credit
Grades: 9, 10, 11, 12
Prerequisite: Assessment prior to course registration/teacher recommendation. Class is for English Language Learners at the Entering/Emerging Levels.
Course Description: This course will develop basic literacy skills of the students’ home language (Spanish). Lessons will focus on specific academic language proficiency with additional emphasis on the ability to produce grammatically accurate language. The course culminates with the Local FLACS A assessment. Class is conducted entirely in Spanish.

NATIVE LANGUAGE ARTS 2 (5126)
Full Year
1 Credit
Grades: 9, 10, 11, 12
Prerequisite: NLA1 and/or assessment prior to course registration/teacher recommendation. Class is for English Language Learners at the Emerging/Transitioning levels.
Course Description: Students enrolled in this course possess high intermediate to advanced listening, reading, writing speaking and viewing skills in Spanish. Student will be guided in the production and interpretation of literature as well as be asked to create original pieces. Class is conducted entirely in Spanish.

NATIVE LANGUAGE ARTS 3 (5136)
Full Year
1 Credit
Grades: 10, 11, 12
Prerequisite: NLA 2 and/or assessment prior to course registration/teacher recommendation. Class is for English Language Learners at the Transitioning/Expanding levels
Course Description: Students already possessing Spanish language proficiency in reading, writing, speaking listening and viewing will understand, produce and experience a variety of genres in Spanish Literature. This course culminates with the administration of the FLACS Local Assessment B; which leads to an Advanced Regents Diploma. Class is conducted entirely in Spanish.

NATIVE LANGUAGE ARTS 4 (5146)
Full Year
1 Credit
Grades: 10, 11, 12
Prerequisite: NLA 3 and/or assessment prior to course registration/teacher recommendation. Class is for English Language Learners at the Expanding levels.
Course Description: Students will continue to expand on the key skill areas: reading, writing, listening, speaking and viewing. More analysis and synthesis of authentic works will be explored. Students will demonstrate and create visual/oral presentations showcasing his/her understanding of the intercultural and historical aspects of the language. Class is conducted entirely in Spanish.
ENL INTENSIVE NATIVE LANGUAGE ARTS (55753)

Full Year
1 Credit Grades: 9, 10
Prerequisite: Level Placement per NYSESLAT

**Course Description:** This one-year course is designed to provide intensive instruction in developing Spanish Language Arts and foundational literacy skills, build conceptual knowledge across content areas, and explicitly develop academic language, literacy and habits of mind.

ITALIAN 1 (5210)

Full Year
1 Credit Grades: 9, 10
Prerequisite: None

**Course Description:** This course is an introduction to the Italian language and the culture of the people who speak it. Students develop basic skills in speaking, listening, reading and writing. In this first year, emphasis is placed on developing accurate pronunciation, acquiring basic vocabulary, structural patterns and verbal communication related to real life situations. The course culminates with the Local FLACS A assessment.

ITALIAN 2 (5220)

Full Year
1 Credit Grades: 9, 10, 11
Prerequisite: Italian 1/Successful completion of a French or Spanish sequence and teacher recommendation/ Departmental Assessment.

**Course Description:** Students continue to develop the four skill areas: listening, speaking, reading, and writing of the Italian language. Basic structural patterns.

ITALIAN 3 (5230)

Full Year
1 Credit Grades: 10, 11, 12
Prerequisite: Italian 2

**Course Description:** In this third level, students continue to develop and improve their language skills. Particular emphasis is given to the mastery of the basic structural patterns, vocabulary building and its application to speaking and writing. Students will work with extensive reading comprehension passages, dialogue and paragraph construction relating to real life situations. The course culminates with the FLACS B Local Assessment, which leads to an Advanced Regents Diploma.

**ITALIAN 4 (5240)**

Full Year
1 Credit Grades: 11, 12
Prerequisite: Italian 3

**Course Description:** This course enables students to develop the multiple skills necessary to refine their communication through an exploration of complex points of expression. They will gain greater ability to: (1) engage in conversations on a wide variety of relevant topics; (2) understand essential modalities of spoken Spanish delivered at moderate speed; (3) comprehend some literature and some general reader non-technical prose; (4) write coherent paragraphs in the form of summaries and descriptions; and (5) handle routine social situations in a culturally correct manner. (6) become more sophisticated at an intermediate level. Focus is on using communicative proficiency and fluency in real life situations.

*Pending staffing/enrollment.
English as New Language classes are reserved for our English Language Learner (ELL) whose native language is one other than English and who, as a result of diagnostic testing, is limited English proficient.

**ENTERING ENL (55611, 55621)**
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: NYSITELL/NYSESLAT Level

**Course Description:** This course meets each day and is designed for students who demonstrate entering levels of proficiency in reading, writing, listening and speaking of English. The course is designed to provide instruction in basic English with an emphasis on academic language skills. It presents the basic grammatical and syntactical structures of English language. Students assigned to this class will have an additional ELA class.

**EMERGING ENL (55711, 55721)**
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: NYSITELL/NYSESLAT Level

**Course Description:** This course meets each day and is designed for students who demonstrate emerging levels of proficiency in reading, writing, listening and speaking of English. The course is designed to provide instruction in English with an emphasis on academic language skills. It presents the grammatical and syntactical structures of the English language. Students assigned to this class will have an additional ELA class.

**ENL CONSULTING (55731)**
Full Year Grades: 9, 10, 11, 12

**Course Description:** This consulting course is designed for select English Language Learners with IEPs. The course is supportive of all proficiency levels as students become familiar with the components of the New York State English as a Second Language Assessment Test (NYSESLAT). ENL skills required for each competency - listening, reading, writing, and speaking are emphasized in a co-teaching classroom environment.

**ENGLISH AS A NEW LANGUAGE (ENL) - INTENSIVE (55751)**
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: Level placement per NYSITELL and MLS.

**Course Description:** This course is designed to provide intensive English foundational literacy skills, build conceptual knowledge across content areas and explicitly develop academic language, literacy and habits of mind.
Below are typical math course sequences that students may take throughout their high school career. There are many pathways to pursue, too many to illustrate, for students to meet their math graduation requirement, so students should speak with their guidance counselor or math teachers about their interest in taking math courses.

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Grade 8 Math | Beginning Math | Algebra 1A | Algebra 1B | Math Electives
ALGEBRA IA
Half Year (Fall) - Double Period (30915)  Full Year (30911)  NCAA approved course (.5)
1 Credit  Grade: 9
Prerequisite: Grade 8 teacher recommendation
Course Description: This course is the first half of a double period year long program that is designed for students who need additional time and support to achieve proficiency in Mathematics. The course follows the New York State Algebra I curriculum and prepares students for the Regents exam in June of the second year. Students enrolled in this course will learn: relationships between quantities, reasoning with equations and their graphs, descriptive statistics, linear and exponential functions, polynomial and quadratic (expressions, equations and functions) and modeling with equations and functions. Students will take a final exam in June.

ALGEBRA IB
Half Year (Spring) - Double Period (31015)  Full Year (3101) (31010) (31011) (37905)  NCAA approved course (.5)
1 Credit  Grade: 9
Prerequisite: Algebra 1A (3091)
Course Description: This course is the second half of a double period year long program that is designed for students who need additional time and support to achieve proficiency in Mathematics. Students enrolled in the Algebra course will learn the following concepts: relationship between quantities, reasoning with equations and their graphs, descriptive statistics, linear and exponential functions, polynomial and quadratic (expressions, equations and functions) and modeling with equations and functions. Students take the Algebra I Regents in June

ALGEBRA I (3095) (3093/30930* with concepts)
Full Year  NCAA approved course
1 Credit  Grade: 9
Prerequisite: (3095) Grade average >= 75 and Grade 8 teacher recommendation, (3093) Grade average <75 and Grade 8 teacher recommendation.
Course Description: This 9th grade course follows the New York State Algebra I curriculum and is the first course of a three-year sequence that is required for the Regents Diploma with Advanced Designation. The fundamental purpose of this course is to formalize and extend the mathematics that students learned in the middle grades. Students enrolled in this course will learn: relationships between quantities, reasoning with equations and their graphs, descriptive statistics, linear and exponential functions, polynomial and quadratic (expressions, equations and functions) and modeling with equations and functions. Students will take the Algebra I Regents in June.

ALGEBRA I CONCEPTS (3094) (30940)
Full Year – Alternate Days
1/2 Credit  Grade: 9
Prerequisite: Grade 8 average <= 75 and Grade 8 teacher recommendation
Co-requisite: Algebra I
Course Description: This course is designed to provide students with supplemental instruction in key algebraic concepts to ensure success on the Algebra I Regents Exam. Students will be provided with targeted small group instruction to overcome barriers affecting their ability to gain conceptual understanding and long term retention. Topics will include linear and exponential functions, quadratic expressions, equations and functions, multiple representations of relationship between quantities, polynomials and modeling with equations and functions.

TECHNICAL MATHEMATICS (3117)
Full Year  NCAA pending approval course
1 Credit  Grade: 10, 11, 12
Prerequisite: Successful completion of Algebra I
Course Description: Technical Mathematics extends students' proficiency in mathematics, and prepares them to transition to a post-secondary education (technical school, community college), trade, or military. Topics include but are not limited to rational numbers; systems of measurements; numerical languages; geometry; algebra; statistics; and using tables, graphs, charts, and other data displays. Technology is integrated as appropriate and emphasis is placed on preparation for entrance/placement exams.
BEGINNING MATH (33311)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course is intended to strengthen mathematical foundation for ENL students. It is designed to build upon the essential skills of arithmetic as they apply to the future study of Algebra I. The course includes a comprehensive review of operations with decimals/fractions, ratio and proportion, percent, elementary algebra and some elements of geometry.

GEOMETRY (3102) (3105/31050* with concepts)
Full Year NCAA approved course
1 Credit Grades: 10, 11, 12
Pre-requisite: >= 75 final grade average in Algebra I and pass the Algebra I Regents
Prerequisite: Algebra I
Course Description: This course follows the New York State Geometry curriculum and is the second course of a three-year sequence required for the Regents Diploma with Advanced Designation. Some of the concepts students will learn are congruence, similarity, right triangles and circles. Students will be required to apply geometric concepts in modeling situations. In addition to expressing geometric properties with equations, students will gain understanding on geometric measurement and dimension. Students will take the Geometry Regents Exam in June.

GEOMETRY CONCEPTS (3106) (31060)
Full Year- Alternate Days
1/2 Credit Grades: 10, 11
Prerequisite: <75 final grade average in Algebra I and/or teacher recommendation
Prerequisite: Algebra I and teacher recommendation
Course Description: This course is designed to provide students with supplemental instruction in key geometric concepts to ensure success in the Regents exam. Students will be provided with targeted small group instruction to overcome barriers affecting their ability to gain conceptual understanding and long term retention. Topics include geometrical transformation, congruency, similarity, triangles, quadrilaterals, circles, volume and area with an emphasis on deductive reasoning skills and derivation of important geometric facts.

GEOMETRY HONORS (3099)
Full Year NCAA approved course
1 Credit Grades: 9, 10
Prerequisite: => 85 final grade average in Algebra I Honors in Grade 8 and/or teacher recommendation
Course Description: This is a rigorous course designed for those students who have performed at a mastery level in the accelerated middle school program. This course includes enrichment topics that enhance the New York State Geometry curriculum and also serves as the second course of a three-year sequence required for the Regents Diploma with Advanced Designation. Students enrolled in the Geometry course will learn the following concepts: congruence, proof, construction, similarity, three dimensions and circles (with and without coordinates). Students will take the Geometry Regents Exam in June.

ADVANCED COLLEGE PREP ALGEBRA (3118) (31180) (31181) (31188)
Full Year NCAA approved course
1 Credit Grades: 10, 11, 12
Prerequisite: Algebra I Regents >= 65 and teacher recommendation for 10th graders or departmental approval.
Course Description: This course is designed to prepare students for the study of college level mathematics and follows the successful completion of Algebra I. Topics include systems of real numbers and equations, equations and inequalities, functions and their graphs, systems of equations and systems of inequalities, rational expressions and irrational and complex numbers.

ALGEBRA II (3115/3112* with concepts)
Full Year NCAA approved course
1 Credit Grades: 10, 11, 12
Pre-requisite: >= 75 final grade average in Algebra I, Geometry or Geometry Honors or departmental approval.
Course Description: This course follows the New York State Algebra II curriculum and is the third course of a three-year sequence required for the Regents Diploma with Advanced Designation. Topics include complex numbers, relations and functions, coordinate geometry, trigonometric functions, statistics and probability. Students will take the Algebra II Regents Exam in June.
ALGEBRA II CONCEPTS (3110)

Full Year- Alternate Days
1/2 Credit Grades: 10, 11, 12
Prerequisite: 67-74 final average in Algebra I and/or teacher recommendation, Geometry, Geometry Honors, or departmental approval.

Course Description: This course is designed for students interested in meeting the qualifications for the Regents Diploma with Advanced Designation and need supplemental instruction in key trigonometric concepts to ensure success in the Regents exam. Topics include trigonometric, exponential and logarithmic functions, trigonometric identities and operations with rational expressions. A comprehensive review to prepare students for the Algebra II Regents exam will be provided towards the end of the course.

ALGEBRA II HONORS (3109)

Full Year NCAA approved course
1 Credit Grades: 10, 11, 12
Prerequisite: => 85 final average grade in Geometry Honors and teacher recommendation

Course Description: This is a rigorous course designed for those students who have performed at a mastery level in Geometry Honors. This course includes enrichment topics that enhance the New York State Algebra II curriculum and also serves as the third course of a three-year sequence required for the Regents Diploma with Advanced Designation. Topics include complex numbers, relations and functions, coordinate geometry, trigonometric functions, statistics and probability. Students will take the Algebra Regents Exam in June.

ADVANCED MATHEMATICS (3122)

Full Year NCAA approved course
1 Credit Grades 11, 12
Prerequisite: Algebra II grade average >=65

Course Description: This course is designed to prepare students for the study of college level Pre-Calculus and Calculus. Topics include real and complex numbers, higher degree equations and inequalities, sequences and series, functions and their graphs, vectors, matrices, conic sections, exponential and logarithmic functions, polar coordinates, areas of sectors and segments, trigonometric applications, statistics, and an introduction to limits and derivatives.

BEACON PRECALCULUS HONORS (3119)

Full Year NCAA approved course
(SCCC credit) (MAT 126, 4 credits)
1 Credit Grades: 11, 12
Prerequisite: => 85 final average grade in Algebra II Honors and => 70 on Algebra II Regents and teacher recommendation

Course Description: This is a rigorous course designed for those students who have performed at a mastery level in the previous Mathematics course. Topics include real and complex numbers, higher degree equations and inequalities, sequences and series, functions and their graphs, vectors, matrices, conic sections, exponential and logarithmic functions, polar coordinates, trigonometric applications and statistics. This course is also devoted to mastering the beginning topics in Calculus. Some of the areas covered are limits and rates of change, velocity, continuity, finding the derivative of various functions and the rules for differentiability. This course is designed for those students who plan to continue to AP Calculus. Students may choose to register with Suffolk County Community College to take this course for 4 college credits through the BEACON Program. Please refer to page 8 BEACON information (tuition and due dates).

BEACON COLLEGE ALGEBRA (3121)

Full Year NCAA approved course
(SCCC credit) (MAT111, 4 credits)
1 Credit Grade: 12
Prerequisite: College Prep Algebra final grade >= 80 or Algebra II or Advanced Mathematics and teacher recommendation

Course Description: This course is a continuation of study of basic concepts of Algebra. Topics include matrices and determinants, polynomial functions, conic sections, exponential and logarithmic functions, sequences and series, trigonometric functions and their graphs, and probability and statistics. Students may choose to register with Suffolk County Community College to take this course for 4 college credits through the BEACON Program. This course fulfills the SUNY General Education Requirement for Mathematics for all SUNY campuses. Please refer to page 8 BEACON information (tuition and due dates).
BEACON STATISTICS (3123)
Full Year       NCAA approved course
(SSCC Credit)   (MAT103, 3 Credits)
1 Credit        Grades: 11, 12
Prerequisite:   Algebra II or Advanced Mathematics
Course Description: This is a one-year introductory course in Statistics designed for seniors. Topics include exploring and analyzing data, methods of statistical inference, statistical models, binomial and normal distribution, t- distribution and chi-square distribution. Students may choose to register with Suffolk County Community College to take this course for 3 college credits through the BEACON Program. This course fulfills the SUNY General Education Requirement for Mathematics for all SUNY campuses. Please refer to page 8 BEACON information (tuition and due dates).

BEACON CALCULUS (3124)
Full Year       NCAA approved course
1 Credit        Grade: 12
Prerequisite:   >=70 on Algebra II Regents Exam, >= 80 final average in Advanced Math, and teacher recommendation
Course Description: Calculus is a course in higher mathematics that includes the study of topics in differential and integral calculus. Students may choose to register with Suffolk County Community College to take this course for 4 college credits through the BEACON Program. Please refer to page 8 BEACON information (tuition and due dates).

ADVANCED PLACEMENT STATISTICS (3127)
Full Year       NCAA approved course
1 Credit        Grades: 11, 12
Prerequisite:   Algebra II or Advanced Mathematics
Course Description: In this course students are introduced to major concepts and tools for collecting, analyzing and drawing conclusions from data. Students will explore data, plan as well as conduct studies, anticipate patterns by exploring random phenomena using probability and simulations and draw statistical inferences by estimating population parameters and testing hypothesis. All students enrolled in this class are expected to take the College Board AP exam.

ADVANCED PLACEMENT CALCULUS AB (3125)
Full Year       NCAA approved course
1 Credit        Grade: 12
Prerequisite:   >= 80 final average in Pre-Calculus Honors, >= 75 on Algebra II Regents exam and teacher recommendation
Course Description: Advance Placement Calculus AB is a college level mathematics course for which most colleges grant advanced placement and/or credit. This course is equivalent to one semester of College Calculus. Students study topics in differential and integral calculus. All students enrolled in this class are expected to take the College Board AP exam.

ADVANCED PLACEMENT CALCULUS BC (3126)
Full Year       NCAA approved course
1 Credit        Grade: 12
Prerequisite:   >= 90 average in Beacon Pre-Calculus Honors, >= 85 on Algebra II Regents and teacher recommendation
Course Description: This is a rigorous course designed for those students who have performed above a mastery level in the Pre-Calculus Honors course. Advanced Placement Calculus BC is a full year course in the calculus of functions of a single variable. It includes all topics covered in Advance Placement Calculus AB, plus additional topics. It is the equivalent of Calculus I and II, or two semesters, at most colleges. Many colleges will award up to 8 college credits upon successful completion of the exam. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.
MUSIC

Mr. Mark Stuckey
Director of Art, Music and Cultural Arts

In addition to enhancing one’s musical ability, the objective in all music courses is to develop an appreciation and love for all music, to develop the intrinsic values applied in life, and to encourage high standards in performance.

Music lessons:  (All students that perform in band, choral and orchestral ensembles) In addition to the daily full group practice sessions, students are scheduled for small group instructional lessons on a rotating class period basis throughout the school day, approximately once per week. These music lessons are an expectation of the music program in the district, and are an extension of classroom instruction, providing students the ability to work on individualized parts with their music teacher. Students are expected to make up any classwork or exams that are missed when attending a music lesson.

CONCERT BAND (7810)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: This ensemble is open to students with who have performed in band at the middle school level, by audition or teacher recommendation. Students must have performance capabilities on brass, woodwind or percussion instruments. 

Course Description: This band will present three annual night time concerts. Students are exposed to a variety of musical styles, rehearsal and performance techniques. Students may participate in various State and local music festivals including the NYSSMA Solo Festival and All County ensembles. Participation in all performances is a requirement of the course. All students will participate in small group instructional lessons. These lessons are designed to work with students on individual instrument and voice parts so that instruction and assessment can take place, as it is not possible in a large ensemble setting. These lessons will take place approximately once per week during the school day on a rotating period basis, in which they will be excused from the period they will be missing. Students in both the concert band and wind ensemble will also participate as a combined group as members of the Patchogue-Medford High School Marching Band, performing at all home football games, selected ceremonies/parades, and the Newsday Marching Band Festival. In order to learn the fundamentals of marching, the half-time music and drill, and the pep band music played in the stands, rehearsals outside of the school day are a necessary component. Marching band camp will meet for several days during the summer months, as well as evening rehearsals in September and October to prepare for the marching season, which will end by mid-October. Schedule details will be mailed home in the spring and again in the summer months for planning purposes.

CONCERT ORCHESTRA (7820)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: This ensemble is open to students with who have performed in orchestra at the middle school level, by audition or teacher recommendation. Students must have performance capabilities on the violin, viola, cello or string bass.

Course Description: This orchestra will present three annual night time concerts. Students are exposed to a variety of musical styles, rehearsal and performance techniques. Students may participate in various State and local music festivals including the NYSSMA Solo Festival and All County ensembles. Participation in all performances is a requirement of the course. All students will also participate in small group instructional lessons. These lessons are designed to work with students on individual instrument and voice parts so that instruction and assessment can take place, as it is not possible in a large ensemble setting. These lessons will take place approximately once per week during the school day on a rotating period basis, in which they will be excused from the period they will be missing.

WIND ENSEMBLE (7830)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: This ensemble is open to students with outstanding performing abilities on brass, woodwind or percussion instruments, and have experience in a band setting. Placement is based on auditions held in the spring of each year.

Course Description: This band will present three annual night time concerts. Students are exposed to a variety of musical styles, rehearsal and performance techniques. Students may participate in various State and local music festivals including the NYSSMA Solo Festival and All County ensembles. Participation in all performances is a requirement of the course. All students will participate in small group instructional lessons. These lessons are designed to work with students on individual instrument and voice parts so that instruction and assessment can take place, as it is not possible in a large ensemble setting. These lessons will take place approximately once per week during the school day on a rotating period basis, in which they will be excused from the period they will be missing. Students in both the concert band and wind ensemble will also participate as a combined group as members of the Patchogue-Medford High School Marching Band, performing at all home football games, selected ceremonies/parades, and the Newsday Marching Band Festival. In order to learn the fundamentals of marching, the half-time music and drill, and the pep band music played in the stands, rehearsals outside of the school day are a necessary component. Marching band camp will meet for several days during the summer months, as well as evening rehearsals in September and October to prepare for the marching season, which will end by mid-October. Schedule details will be mailed home in the spring and again in the summer months for planning purposes.
STRING ENSEMBLE (7840)
Full Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: This ensemble is open to students with outstanding ability in violin, viola, cello or string bass, and have experience in a string ensemble. Placement is based on auditions held in the spring of each year.
Course Description: This orchestra will present three annual night time concerts. Students will perform orchestral literature that is rated most difficult in the NYSSMA manual. Students are exposed to a variety of musical styles, rehearsal and performance techniques. Students may participate in various State and local music festivals including the NYSSMA Solo Festival and All-County ensembles. Participation in all performances is a requirement of the course. All students will also participate in small group instructional lessons. These lessons are designed to work with students on individual instrument and voice parts so that instruction and assessment can take place, as it is not possible in a large ensemble setting. These lessons will take place approximately once per week during the school day on a rotating period basis, in which they will be excused from the period they will be missing.

FESTIVAL Chorus (7850)
Full Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: This ensemble is open to students with who have performed in Chorus at the middle school level, by audition or teacher recommendation.
Course Description: This chorus will present three annual night time concerts. A variety of musical genres will be rehearsed and performed with emphasis on breathing, diction, musicianship and interpretation. Objectives include development of poise, self-confidence, expression and quality vocal performance. Students may participate in various State and local music festivals including the NYSSMA Solo Festival and All-County ensembles. Participation in all performances is a requirement of the course. All students will also participate in small group instructional lessons. These lessons are designed to work with students on individual instrument and voice parts so that instruction and assessment can take place, as it is not possible in a large ensemble setting. These lessons will take place approximately once per week during the school day on a rotating period basis, in which they will be excused from the period they will be missing.

CHORAL ENSEMBLE (7860)
Full Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: This ensemble is open to students with outstanding ability and have performance experience in a vocal performing group. Placement is based on audition and/or teacher recommendation.
Course Description: This chorus will present three annual night time concerts. Students will perform choral literature that is rated most difficult in the NYSSMA manual. A variety of musical genres will be rehearsed and performed with emphasis on breathing, diction, musicianship and interpretation. Objectives include development of poise, self-confidence, expression and quality vocal performance. Students may participate in various State and local music festivals including the NYSSMA Solo Festival and All-County ensembles. Participation in all performances is a requirement of the course. All students will also participate in small group instructional lessons. These lessons are designed to work with students on individual instrument and voice parts so that instruction and assessment can take place, as it is not possible in a large ensemble setting. These lessons will take place approximately once per week during the school day on a rotating period basis, in which they will be excused from the period they will be missing.

TREBLE CHOIR (7855)
Full Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: This ensemble is a treble based choir, open to students with soprano and alto ranged voicings. This is choral group open to students with outstanding ability and have performance experience in a vocal performing group. Placement is based on audition and/or teacher recommendation.
Course Description: This chorus will present three annual night time concerts. A variety of musical genres will be rehearsed and performed with emphasis on breathing, diction, musicianship and interpretation. Objectives include development of poise, self-confidence, expression and quality vocal performance. Students may participate in various State and local music festivals including the NYSSMA Solo Festival and All-County ensembles. Participation in all performances is a requirement of the course. All students will also participate in small group instructional lessons. These lessons are designed to work with students on individual instrument and voice parts so that instruction and assessment can take place, as it is not possible in a large ensemble setting. These lessons will take place approximately once per week during the school day on a rotating period basis, in which they will be excused from the period they will be missing.
CLASS PIANO I
(7870) Half Year
(7871) Full Year - Alternate Days
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None. This course will initially be reserved for students who have no prior performing experience in band, chorus or orchestra at the middle-school level.
Course Description: This course is designed for students with little or no piano experience. It allows the opportunity for students to learn the basic keyboard skills needed to be able to play the piano. It also provides the student with some basic music theory knowledge such as reading pitch notation in treble and bass clef, rhythm notation, chord creation and time signatures. Standard piano literature will also be covered.

CLASS PIANO II (7875)
Half Year
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: Teacher recommendation
Course Description: This course is designed for the student who is past the beginning piano stage and can read music and play with both hands at approximately a third year private piano student level. Additional music theory is taught along with the piano music including some basic techniques for music composition. This course is open, but not limited, to the student who has successfully completed Class Piano I.

MUSIC THEORY I (7885)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: Music performance ability or teacher recommendation
Course Description: This course builds a background in the fundamentals of music theory and provides a solid foundation for the study of harmony. Students will learn how music is constructed through studying the following topics: key signatures, major/minor scales, intervals, chords and rhythm. Instruction will include ear training, sight singing, harmonic analysis, part writing and fundamental piano technique. Computers and the electronic music lab will be utilized in this course.

HISTORY OF AMERICAN MUSIC (7880)
Half Year - Alternate Days
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course is the study of American music. The study will begin with the external influences leading to the birth of the uniquely American musical styles including Ragtime, Jazz, Blues, Rock, Broadway, American Classical and R&B. Students will learn about the leading artists, styles, how they were influenced, instrumentation, effect of technology and orchestration.

BEACON MUSIC THEORY II *(7886)
Full Year
1 Credit Grades: 10, 11, 12
Prerequisite: Teacher recommendation
Decision on Beacon credit being awarded will be determined by Suffolk Community College before June 2019
Course Description: An Advanced course for serious Music student musicians. This course is a continuation of Music Theory 1 that will study: advanced harmony, sight-singing, dictation harmonic analysis and advanced piano technique. There is a required summer assignment. Those students may choose to take the College board AP Music exam. Students may choose to register with Suffolk County Community College to take this course through the Beacon Program. Please refer to page 8 BEACON information.
As research indicates, the more physically fit an individual, the healthier, better adjusted and more motivated the individual will become. The Physical Education Department believes that each student is entitled to an equal opportunity to participate in physical activities that will benefit the needs, interests, and values of each individual. The staff is committed to encourage and assist students to become all they are capable of being and to develop a healthy respect toward themselves and each other. Participation and skill development are major factors used in determining success in class. Instruction on nutrition, fitness, personal health, safety, lifetime athletic activities, movement appreciation and awareness of community resources are program goals. All students are required to dress for class, including gym shorts or warm-ups, a top different from the one worn during the day, socks and sneakers.

**PE 101 (9401)**
Full Year - Alternate Days
1/2 Credit Grade: 9
Prerequisite: None
Course description: 9th grade will be exposed to a multitude of fitness activities, project adventure activities, fitness principles, team sports, lifelong activities and fitness assessment (Pacer test, Push-Ups, Curl-Ups, Sit and Reach).

**PE 201 PHYSICAL EDUCATION FITNESS / WELLNESS (9402)**
Full Year - Alternate Days
1/2 Credit Grades: 10, 11, 12
Prerequisite: None
Course Description: This course is designed to assist students in their understanding of how to maintain personal fitness and wellness for life. Students will learn how to assess their own personal fitness levels and the benefits of the 5 components of health-related fitness; using a variety of fitness activities. Students will utilize the POLAR A370 Fitness Watch and the POLAR Go Fit App to maintain and understand their own fitness levels. The fitness assessment will also be an inclusive part of this course.

**PE 301 PHYSICAL EDUCATION TEAM SPORTS (9403)**
Full Year - Alternate Days
1/2 Credit Grades: 10, 11, 12
Prerequisite: None
Course Description: This course is designed to provide students with an opportunity to participate in 8 activities throughout the school year. Students will be required to demonstrate a combination of skills, knowledge and behaviors while participating on a team. Team sports may include but are not limited to: (soccer, flag football, volleyball, team handball, hockey, speedball – fitness assessment)
PE 401 LIFELONG ACTIVITIES (9404)
Full Year - Alternate Days
1/2 Credit Grades: 10, 11, 12
Prerequisite: None
Course Description: This course is designed to assist students in their understanding of how to participate in lifelong activities. Lifelong physical activities involve participating in a range of activities that will assist in maintaining personal fitness and overall health for life. Lifelong activities may include but are not limited to: (golf, tennis, ping pong, badminton, pace walking – fitness assessment).

ADAPTIVE PHYSICAL EDUCATION (9415)
Full Year - Alternate Days
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: Departmental recommendation
Course Description: Students will participate in a variety of traditional Physical Education activities including team activities, cooperative games and personal fitness. Each activity includes an introduction, rules and regulations, safety concerns, skill explanation, demonstration and development along with remediation, participation in the activity, and a cognitive assessment.
LITERACY SUPPORT 9
(1407) Alternate Days
1/2 Credit Grade: 9
Prerequisite: Teacher recommendation
Course Description: This course is designed to provide support in reading and writing to those who are below grade level expectations. Teachers will identify students’ strengths and weaknesses in literacy in order to strengthen specific areas that will promote confidence and independence with high school level text in various content areas. Reading and writing skills will be addressed together on an ongoing basis, throughout the course. Beginning and end of course assessments will determine students’ reading levels and measure growth.

LITERACY SUPPORT-WILSON
Full Year (1414)
Half Year (1413)
1 Credit Grades: 9, 10, 11, 12
Prerequisite: Teacher recommendation
Course Description: This course is an instructional program that uses a highly structured multi-sensory approach to foundational reading skills. It requires an evaluation of a student’s strength and their skill level for appropriate placement.

LITERACY SUPPORT 10 (1411)
Half Year
1/2 Credit Grade: 10
Prerequisite: Teacher recommendation
Course Description: This course enhances basic reading skills necessary for completion of high school content area courses. Students will develop the ability to read and study textbook materials effectively, including fiction and non-fiction text structures, note-taking, summarizing, organizing information, and many other skills. Writing skills appropriate for content area work will be developed simultaneously.

LITERACY SUPPORT 11 (1425)
Half Year
1/2 Credit Grade: 11
Prerequisite: Teacher recommendation
Course Description: This course parallels the Grade 11 curriculum. It provides more intensive instruction for students who need Reading/Writing remediation in order to be successful when being administered the Regents Examination, and/or RCTs in Reading/Writing.

WRITING A RESEARCH PAPER (1810)
Half Year
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course is to provide students with additional support in writing a research paper.
The diagram below represents the major groupings of science courses offered at the high school. Within each group is a list of subjects that students can take to fulfill their science graduation requirement. On the following pages, one can find course descriptions for the various subjects along with any prerequisites. Students should speak with their guidance counselor or science teachers about their interest in taking science courses.

Since advances in science often stimulate the growth of our society, it is essential that all high school students receive a meaningful and productive science education. In order to prepare our students for the challenges that occur daily in our highly sophisticated technological world, the Science Department is committed to promoting lifelong learning, rational and independent thinking, and the practical application of the scientific method. The variety of courses offered makes it possible for all students to learn science in each of their four high school years. Students who plan to pursue a four-year college degree are expected to successfully complete Regents courses in Biology, Earth Science, Chemistry and Physics as well as any other subjects that will provide a foundation for the science courses they will take in college.

Laboratory experiences are an integral part of all science courses. The high school has well-equipped laboratories that provide meaningful opportunities for the students to gather, record and interpret data and to develop the skills needed to utilize a wide variety of sophisticated science equipment. Students who are enrolled in Regents Science courses must complete the necessary 1200 hours of laboratory requirements in order to take the Regents Examination.
PHYSICAL SETTING: EARTH SCIENCE HONORS (4115)
Full Year NCAA approved course
1 Credit Grades: 10, 11, 12
Prerequisite: >= 90 on Living Environment Regents
Course Description: Topics include meteorology, astronomy (seasons and shape of the earth), rocks and minerals, earthquakes, volcanoes, weathering and erosion. This course culminates with a Regents examination and has a laboratory period that meets alternate days for the entire year. This course includes an Honors project and/or term paper as determined by the instructor.

PHYSICAL SETTING: EARTH SCIENCE (4110) (41100)
Full Year NCAA approved course
1 Credit Grades: 10, 11, 12
Prerequisite: Teacher recommendation or successful completion of Living Environment
Course Description: Topics include meteorology, astronomy (seasons and shape of the earth), rocks and minerals, earthquakes, volcanoes, weathering and erosion. This course culminates with a Regents examination and has a laboratory period that meets alternate days for the entire year.

LIVING WORLD (4050) (4051) (40505)
Full Year NCAA approved course
1 Credit Grade: 9, 10
Prerequisite: None
Course Description: This is the first half of a two-year program that will prepare the students for the Living Environment Regents examination. This course will provide extensive training and challenging experiences in scientific inquiry and laboratory processes. A major focus of the first year will be the study of the characteristics of living things and the factors that affect them. Topics include cell structure and function, homeostasis, basic biochemistry, animal structure and function, and the classification of all living things.

LIVING ENVIRONMENT (4120) (41200) (41201) (41205)
Full Year NCAA approved course
1 Credit Grades: 9,10, 11, 12
Prerequisite: Teacher recommendation
Course Description: Topics include cell structure and function, homeostasis, basic biochemistry, animal structure and function, the classification of all living things, reproduction and development, heredity and genetic engineering, plant structure and physiology, evolution and ecology. This course culminates with a Regents examination and has a laboratory period that meets alternate days for the entire year.

LIVING ENVIRONMENT HONORS (4122)
Full Year NCAA approved course
1 Credit Grade: 9,10
Prerequisite: Successful completion of Earth Science Regent or students who have >= 90 final average in Grade 8 Science and Math
Course Description: Topics include cell structure and function, homeostasis, basic biochemistry, animal structure and function, the classification of all living things, reproduction and development, heredity and genetic engineering, plant structure and physiology, evolution and ecology. This course culminates with a Regents examination and has a laboratory period that meets alternate days for the entire year.
PHYSICAL SETTING: HONORS CHEMISTRY (4280) (4281)
Full Year  NCAA approved course
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: >= 85 score on Regents Exam in Living Environment or Earth Science and >= 85 score on Regents Exam in Algebra I or Geometry and teacher recommendation
Course Description: This course involves the fundamentals of matter and chemical energy. Topics include atomic concepts, the periodic table, stoichiometry, chemical bonding, the physical behavior of matter, kinetics and equilibrium, organic chemistry, oxidation-reduction, electrolytes, and nuclear chemistry. This course culminates with a Regents examination and has a laboratory period that meets alternate days for the entire year. Students enrolled in this course will be prepared for, and encouraged to take, advanced science courses in their junior and senior years.

PHYSICAL SETTING: CHEMISTRY (4130)
Full Year  NCAA approved course
1 Credit  Grades: 10, 11, 12
Prerequisite: Successful completion of Living Environment, Earth Science, Algebra & Geometry courses and regents
Course Description: This course parallels the topics of course 4280. It is recommended that students who plan to major in science or engineering in college take this course. This course culminates with a Regents Examination and has a laboratory period that meets alternate days for the entire year.

PHYSICAL SETTING: APPLIED CHEMISTRY (4030)
Full Year  NCAA approved course
1 Credit  Grades: 11, 12
Prerequisite: Successful completion of Living Environment Regents
Course Description: This course explores the basic concepts of chemistry by offering a variety of classroom and laboratory experiences including characteristics of and changes in matter, bonding, the periodic table, compounds and mixtures, electrolytes, and atomic structures. It is designed for students not seeking to major in the sciences or engineering in college. There is no laboratory requirement nor do students take a Regents exam for this course.

PHYSICAL SETTING: PHYSICS (4140)
Full Year  NCAA approved course
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: Successful completion of Earth Science, Algebra I (Regents >= 80), or Chemistry (FG >=80)
Course Description: This course presents a modern view of the principles and laws of the physical world. It offers an experimental, as well as theoretical approach to the concepts of mechanics, energy, electricity, magnetism, waves and modern physics. In the laboratory, students generate data, analyze it mathematically, relate it to the fundamental laws of matter, and then submit written reports. This course culminates with a Regents examination and has a laboratory period that meets alternate days for the entire year. It is recommended that students who wish to major in the sciences or engineering in college take this course.

PHYSICAL SETTING: HONORS PHYSICS (4145)
Full Year  NCAA approved course
1 Credit  Grades: 9, 10, 11, 12
Prerequisites: >= 85 final average in Regents Chemistry or Earth Science and >= 85 score on Regents Exam in Algebra 1.
Course Description: This course presents an advanced content level of Physics Regents. Proficiency in algebra is essential for this course. College bound students should consider this course. This course culminates with a Regents examination and has a laboratory period that meets alternate days for the entire year.
ASTRONOMY (4210)  
(42105) Half Year    NCAA approved course  
(4211) Full Year- Alternate Days  
1/2 Credit    Grades: 9, 10, 11, 12  
Prerequisite: Teacher recommendation or department approval  
Course Description: This course covers the history of astronomy, instruments, coordinate systems, stars, planets and galaxies. Students are expected to participate in two evening sessions, or the equivalent, that will include the use of the telescope. Elementary Algebra is used.

ENVIRONMENTAL SCIENCE (4220)  
(42205) Half Year    NCAA approved course  
(4221) Full Year – Alternate Days  
1/2 Credit    Grades: 9, 10, 11, 12  
Prerequisite: Teacher recommendation or department approval.  
Course Description: The primary goal of this course is to engender positive attitudes, values and behavior in students concerning the environment and our natural resources. It will enable them to become informed and concerned citizens who will weigh present actions in terms of future consequences. Topics include population dynamics, land management, pollution, energy, governmental control and environmental careers.

FORENSIC SCIENCE LIFE  
(4250) Half Year    NCAA approved course  
(4251) Full Year – Alternate Days  
1/2 Credit    Grades: 10, 11, 12  
Prerequisite: 9th grade teacher recommendation and successful completion of Living Environment  
Course Description: This course will provide the opportunity to stimulate students' interests in science by allowing them to see through the eyes of forensic investigators by applying the concepts from the exciting worlds of biology, chemistry, physics, and the physical sciences. Students will gain an understanding in the different areas of forensic science, including collecting and preserving evidence, identifying and analyzing evidence such as fingerprints, hair fibers, DNA evidence, documents, firearms, etc. Through hands-on laboratory investigations as well as virtual investigations, students will gain an insight into the field of forensic science and crime scene investigations.

FORENSIC SCIENCE PHYSICAL (4252)  
Half Year    NCAA approved course  
1/2 Credit    Grades: 10, 11, 12  
Prerequisite: 9th grade teacher recommendation and successful completion of Living Environment  
Course Descriptions: Forensic Science II builds upon the topics introduced in Forensic Science I, allowing the students to gain a broader understanding of the role of a forensic investigator. Forensic Science II focuses on how the biological sciences are applied to the field of forensic science. Students will learn about the forensics of hair analysis, fingerprinting, DNA analysis, the study of blood, analysis of pollen and soils, as well as forensic anthropology, psychology and pathology. Through hands-on laboratory investigations as well as virtual investigations, students will gain an insight into the field of forensic science and crime scene investigation.

METEOROLOGY  
(4260) Half Year    NCAA approved course  
(4261) Full Year – Alternate Days  
1/2 Credit    Grades: 10, 11, 12  
Prerequisite: Teacher recommendation or department approval  
Course Description: This course will provide the students with an opportunity to gain a fundamental understanding of weather. Dealing with weather and climate is an inevitable part of our lives because it often influences the decisions we make daily. This course is designed to provide students with an understanding of the processes that create weather and move systems across the surface of the earth. Students will further their skills in science through the use of extensive laboratory work and techniques, outdoor activities and scientific research. Students will be taught on how to understand daily forecasts and how to make their own weather predictions.
**MARINE SCIENCE I (4241)**

Half Year  
NCAA approved course

1/2 Credit  
Grades: 9, 10, 11, 12

Prerequisite:  
Teacher recommendation or department approval

Course Description:  
Marine Science I builds on the physical science and life science concepts learned in previous science courses and applies that knowledge to the exploration of the living and nonliving environments of our bays and oceans. The first half of the course focuses on various aspects of oceanography: chemistry, plate tectonics, sediments, ocean and atmospheric circulation, waves, tides, and coastal processes. The second half of the course focuses on marine biology: plankton, algae, plants, animals, marine ecosystems, and ecology. Special attention will be given to the study of local marine life, beach and bay formations and other significant factors which will make our surrounding salt water environment so unique. Classwork will be supplemented by laboratory exercises, guest speakers and a possible field trip.

**MARINE SCIENCE II (4242)**

Half Year  
NCAA approved course

1/2 Credit  
Grades: 9, 10, 11, 12

Prerequisite:  
Teacher recommendation or department approval

Course Description:  
The Marine Science II course builds upon the topics introduced in Marine Science I with particular emphasis on the study of marine vertebrates and their interrelationships within the marine environment. Students will apply what they have learned about oceanography, marine ecology and the biology of simple marine organisms to the more complex vertebrates in the marine ecosystems. Ethical and social issues related to marine biology and the marine environment and will be addressed. Classwork will be supplemented by laboratory exercises, guest speakers and a possible field trip.

**MAMMALOGY**

(4230) Half Year  
NCAA approved course

(4231) Full Year - Alternate Days

1/2 Credit  
Grades: 9, 10, 11, 12

Prerequisite:  
Teacher recommendation or department approval

Course Description:  
This course is designed to give the student an introduction to the highest of the vertebrate animals, the mammal. By studying specimens from around the world, the students will encounter types of mammals ranging from the egg-laying monotremes to the biped primates. In addition to evolution, structure, physiology and specific orders, observation of behavioral patterns and heredity traits will be made.

**PHENOMENAL PHYSICS – YouTube Explained (4040)**

Full Year

1 Credit  
Grades: 9, 10, 11, 12

Prerequisite:  
Teacher recommendation or department approval

Course Description:  
YouTube® videos and other educational videos that capture scientific phenomena will be used to investigate the laws and principles of physics. Students will be thrust into a world of exploration and problem-solving, and most importantly of all, will design experiments that pique their curiosity and demonstrate their understanding. Students will then create and record their own entertaining yet informational videos that unleash their creativity and originality. Topics will include motion, forces, energy, waves, light and sound.

**UNIFIED SCIENCE/PHYSICAL (41231)**

Full Year  
NCAA approved course

1 Credit  
Grades: 9, 10, 11, 12

Prerequisite:  
Teacher recommendation

Course Description:  
The emphasis of this course will be in the physical sciences, such as Earth, chemistry and physics. The discussions, labs and activities are designed so that the student can explore and learn scientific concepts with a concentration in content vocabulary and science literacy.
COLLEGE EARTH SCIENCE (4117)
Full Year with alternating day lab
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: >= 80 final average in Regents Earth Science and/or Regents Chemistry or Chemistry as a co-requisite
Course Description: This course provides a low-cost college credit pathway who want to continue their pursuit and interest in earth, space, and science education at the college level. A survey of the four sub-disciplines of earth science: astronomy, geology, meteorology, and oceanography. The processes and features related to the earth's surface, interior, atmosphere, oceans, and astronomical surroundings are actively investigated. Analyses of the interrelationships among the four sub-disciplines are included. College credit can be earned through LIU Post. Please refer to page 8 for more information.

ADVANCED PLACEMENT BIOLOGY (4310)
Full Year  NCAA approved course
1 Credit  Grades: 11, 12
Prerequisite: Chemistry or Chemistry Honors or AP Chemistry (FG >= 80) or Living Environment (FG >= 85) and teacher recommendation or director approval.
Course Description: This is a college level course in biology for advanced high school students. Students gain knowledge of molecular, cellular, ecological, evolutionary and ethological biology through a combination of lecture and laboratory experiences. This course has a laboratory period which meets alternate days for the entire year. All students enrolled in this class are expected to take the College Board AP exam.

ADVANCED PLACEMENT CHEMISTRY (4320)
Full Year  NCAA approved course
1 Credit  Grades: 11, 12
Prerequisite: >= 85 final average in Living Environment and Chemistry and teacher recommendation. Pre-Calculus is strongly recommended
Course Description: This is the equivalent of a first year college chemistry course. Topics include the structure of matter, kinetic theory of gases, chemical equilibrium, chemical kinetics, descriptive chemistry, and the basic concepts of thermodynamics. Many college-level laboratory assignments are included. This course has a laboratory period which meets alternate days for the entire year. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.

ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE (4350)
Full Year  NCAA approved course
1 Credit  Grades: 11, 12
Prerequisite: Living Environment and Earth Science
Course Description: The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. This is a lab-based course featuring field research and data collection in The Fish Thicket Nature Preserve. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP Exam.

ADVANCED PLACEMENT PHYSICS 1 (4330)
Full Year  NCAA approved course
1 Credit  Grades: 11, 12
Prerequisite: >= 85 final average in Chemistry and teacher recommendation. Pre-calculus is strongly recommended
Course Description: This course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; and mechanical waves and sound. It will also introduce electric circuits. This course also culminates with a Regents Examination and has a laboratory period which meets alternate days for the entire year. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.
ADVANCED PLACEMENT PHYSICS 2 (4340)

Full Year   NCAA approved course
1 Credit    Grades: 11, 12

Prerequisite: AP Physics 1 and teacher recommendation. Pre-calculus is strongly recommended.

Course Description: This course covers fluid mechanics, thermodynamics; electricity and magnetism; optics; and atomic and nuclear physics. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.

AP SEMINAR (Year One of AP Capstone) (2310)

Full Year   NCAA approved course
1 Credit    Grades: 11, 12

Prerequisite: None

Course Description: This is the foundational course of the 2-year AP Capstone Program. It will provide students with the opportunities to think critically and creatively, research, explore, pose solutions, develop arguments, collaborate and communicate through various media. Students read article, research studies, and foundational and philosophical texts; listen to and view speeches, broadcasts and personal accounts; and experience artistic and literary works to gain an understanding of issues. There is a team project and presentation as well as a research based essay and presentation. Students will write for the Concord Review and participate in History Day. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.

AP RESEARCH (2311)

Full Year   NCAA approved course
1 Credit    Grades: 11, 12

Prerequisite: AP Seminar

Course Description: AP Research allows students to deeply explore a scientific academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year-long science research-based investigation to address a research question. In the AP Research course, students further their skills acquired in the AP Seminar course by understanding research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information as they address a research question. Students explore their skill development, document their processes, and curate the artifacts of the development of their scholarly work in a portfolio. The course culminates in an academic paper of 4000-5000 words (accompanied by a performance or exhibition of product where applicable) and a presentation with an oral defense. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.
All students must earn four Social Studies credits for graduation, one per grade.

**Grade 9**
- Global History I (Regents)

**Grade 10**
- Global History II (Regents/Extended)

**Grade 11**
- US History & Government (Regents/Extended)

**Grade 12**
- Economics
- Participation in Government
- *All students must take Economics and Government*

**Participation in Government:**
- Generation Citizen

**Global History I Honors**

**AP World History**

**AP United States History**

**Electives in Social Studies**
- Criminal Justice
- AP Psychology
- Child Psychology
- Psychology
- Yoga/Eastern Philosophy
- AP Research (Year One of Capstone)
- AP Seminar (Year Two of Capstone)
- AP Human Geography

The goal of the Social Studies program is to help students develop into knowledgeable, thinking and involved American citizens. To this end, Social Studies courses are designed to enable students to gain an understanding of their cultural heritage and political, economic, geographic and social forces that have shaped the history and development of the American nation and other regions of the world. Emphasis is placed on the analysis of factual data to develop concepts, understandings and skills in the social sciences.
GLOBAL HISTORY 1 (2000) (20000) (20001) (20005)

Full Year  
NCAA approved course
1 Credit  
Grade: 9
Prerequisite: None

Course Description: This course is the first part of a two-year Global History program which is taught chronologically. Topics include Introduction to Global History, the Ancient World (including civilizations and religions 4000 BC to 500 AD), Expanding Zones of Exchange and Encounter (500-1200), Global Interactions (1200-1650), and the First Global Age (1450-1770). The curriculum in each unit focuses on basic themes and concepts such as nationalism, diversity, environment, imperialism, change, political and economic systems, geography, interdependence, justice, human rights and urbanization.

GLOBAL HISTORY 1 HONORS – WORLD HISTORY AP PREP (2005)

Full Year  
NCAA approved course
1 Credit  
Grade: 9
Prerequisite: 90+ in Social Studies 8 Honors or 95+ in Social Studies 8 and teacher recommendation

Course Description: This course focuses on the skills and reasoning, contextualization, comparison, causation, and continuity and change over time. These are the skills necessary to research, writing, and debate. The units of study start with ancient period and concludes with the modern period in World History. The learning models is that of a disciplinary apprenticeship and students using the tools of the historian and geographer as sources, data, and analytical reading on center stage. It prepares students for AP Human Geography and AP World History. **Students enrolled in this course will take Advanced Placement World History in grade 10.**

GLOBAL HISTORY 2 (2020) (20200) (20201)

Full Year  
NCAA approved course
1 Credit  
Grade: 10
Prerequisite: Teacher Recommendation

Course Description: This course is the second part of a two-year Global History program which is taught chronologically. Topics include Age of Revolutions (1750-1914), A Half Century of Crisis and Achievements (1900-1945), The 20th Century Since 1945, and Global Connections and Interactions. The curriculum in each unit focuses on basic themes and concepts such as nationalism, diversity, environment, imperialism, change, political and economic systems, geography, interdependence, justice, human rights and urbanization. This course culminates with the Global History Regents Examination.

GLOBAL HISTORY 2 (2010/20105* with skills)

Full Year  
NCAA approved course
1 Credit  
Grade: 10
Prerequisite: Global History 1

Course Description: This course parallels the topics in course 2020. It is designed to reinforce the skills necessary for students to pass the Global History Regents Examination. **This course has an additional period, SS 10 LITERACY SKILLS, which meets alternate days for the entire year.**

SS 10 LITERACY SKILLS (2011) (20115)

Half year – Alternate Days
1/2 Credit  
Grade: 10
Prerequisite: None

Course Description: Students will process key Global History and Geography vocabulary and concepts through training in writing paragraphs, implementing sequencing and scaffolding models and writing DBQ’s. It is a skills based course emphasizing reading and writing for understanding and interpretation. This course runs in conjunction with Global History 2 (2010 or 2735).
ADVANCED PLACEMENT WORLD HISTORY (2350)
Full Year               NCAA approved course
1 Credit                 Grades: 10, 11, 12
Prerequisite: Global History 1 Honors/AP Prep or 95+ average in Global History 1, qualifying examination and teacher/Director recommendation.
Course Description: This course offers motivated students the opportunity to immerse themselves in the processes that, over time, have resulted in the blending of the world into a tightly integrated whole. It presents an approach that allows students to “do history” by guiding them through the steps a historian would take in analyzing historical events and evidence worldwide over a millennium. It is important to realize that AP World History differs significantly from the “usual” high school course; it requires greater mental preparation to cover the range and depth of the topics and a greater time commitment to complete the assignments. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam and the Global History Regents Examination in June.

UNITED STATES HISTORY AND GOVERNMENT (2120) (21200) (21201)
Full Year               NCAA approved course
1 Credit                 Grades: 11
Prerequisite: None
Course Description: The emphasis in this course is on the structure and function of the United States Constitution and the economic, social, and cultural institutions derived from our political experiences. Providing background and knowledge of the American political system, students are prepared to become responsible and active citizens. This course culminates with the United States History Regents Examination.

UNITED STATES HISTORY (2110/21105* with skills)
Full Year               NCAA approved course
1 Credit                 Grade: 11
Prerequisite: None
Course Description: This course parallels the topics in course 2120. It is designed to reinforce the skills necessary for students to pass the United States History Regents Examination. This course has an additional period, SS 11 LITERACY SKILLS, which meets alternate days for the entire year.

SS 11 LITERACY SKILLS (2111) (21115)
Half Year – Alternate Days
1/2 Credit               Grade: 11
Prerequisite: None
Course Description: Students will process key United States History vocabulary and concepts through training in writing paragraphs, implementing sequencing and scaffolding models and writing DBQ’s. It is a skills based course emphasizing reading and writing for understanding and interpretation. This course runs in conjunction with United States History.

ADVANCED PLACEMENT UNITED STATES HISTORY (2320)
Full Year               NCAA approved course
1 Credit                 Grade: 11
Prerequisite: >= 85 average in AP World History or >= 90 average in Global History 2, qualifying examination and teacher/director recommendation summer assignment – reading a book with an accompanying essay
Course Description: This course presents a college-level chronological program in American History. The study assignments consist of intensive reading, writing of research papers, analysis of documents and historical research. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam and the United States History Regents Examination in June.
ADVANCED PLACEMENT EUROPEAN HISTORY & GOVERNMENT (2340)

Full Year  NCAA approved course
1 Credit     Grade: 12
Prerequisite: Director/teacher recommendation and a 90 average in Social Studies

Course Description: The events and movements in Europe from 1450 to the present are developed in this course through intellectual, economic, cultural, diplomatic, and political history. The development of democracy, the rise of absolutism, the growth of communist governments, and the nature of totalitarianism are analyzed. Students express their historical understanding in writing. This course culminates in the Advanced Placement European History examination. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam. Students may receive credit for Government/Economics by taking this course.

PARTICIPATION IN GOVERNMENT (2210) (22100) (22101) (22105)

Half Year  NCAA approved course
1/2 Credit     Grade: 12
Prerequisite: Seniors only

Course Description: This course meets the semester Government requirement for senior Social Studies. Students will study, analyze, monitor and discuss governmental issues and policies. Three units of study will focus on criminal justice, human rights issues and local government. Students will also be required to complete one participatory activity in civic responsibility.

PARTICIPATION IN GOVERNMENT: GENERATION CITIZEN (2211)

Half Year
1/2 Credit     Grade: 12
Prerequisite: Grade 11 and an interview with the course teachers

Course Description: This course is an action civics course designed to help students gain the civic knowledge, skills and dispositions needed to make changes in the issues they care about. Student learn about the political process by directly engaging in it. It is project based learning and assessment that promotes student agency and empowerment.

PRINCIPLES OF ECONOMICS (2230) (22300) (22301) (22305)

Half Year  NCAA approved course
1/2 Credit     Grade:12
Prerequisite: Seniors only

Course Description: This course meets the semester Economics requirement for senior Social Studies. This course provides students with the economic knowledge and skills that will enable them to function as economically literate citizens. Students will gain an understanding of economic concepts such as scarcity, supply and demand, inflation, taxation, distribution of income, economic growth and interdependence. Topics include labor in the economy, measuring the economy and international trade.

ADVANCED PLACEMENT GOVERNMENT/POLITICS U.S. (2360)

Full Year  NCAA approved course
1 Credit     Grade: 12
Prerequisite: Seniors only, teacher/director recommendation

Summer Assignment – reading a book with an accompanying essay.

Course Description: This course meets the Government and Economics requirement for senior Social Studies. AP Government/Economics prepares students for the AP United States Government examination and to participate in the “We the People” competition on the United States Constitution and the Bill of Rights. Students will analyze the development of political parties, the role of the media in campaigns and elections, the protections and responsibilities of the Bill of Rights, the political philosophies of Aristotle, John Locke, James Madison, and the roles of a citizen in a democracy. The government and the economy will also be an emphasis of study. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.
ADVANCED PLACEMENT MICROECONOMICS (2370)
Full Year  NCAA approved course
1 Credit  Grade: 12
Prerequisite: Seniors only, teacher/director recommendation
Course Description: This course meets the Government and Economics requirement for senior Social Studies. The purpose of this course is to give students a thorough understanding of the principles of micro/macroeconomics. This course places particular emphasis on the study of national income and price determination, and also develops students’ familiarity with economic performance measures, economic growth and international economics. This course will also give students a thorough understanding of principles which apply to functions of individual decision makers, both consumers and producers, within the larger economic system. An emphasis will be on the nature of markets and functions of product markets, including a study of factor markets and the role of government in promoting greater efficiency and equity in the economy. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.

PSYCHOLOGY (2255)
Half Year  NCAA approved course
1/2 Credit  Grades: 10, 11, 12
Prerequisite: None
Course Description: This course is designed to introduce students to the field of Psychology. Students will gain insights into such topics as behavioral problems, mental illness and therapies. Guest speakers, human relations activities and films are utilized.

CHILD PSYCHOLOGY (2260)
Half Year  NCAA approved course
1/2 Credit  Grades: 10, 11, 12
Prerequisite: None
Course Description: Focusing on development, this course begins with conception and ends at age six. A healthy family lifestyle is cultivated by concentrating on the emotional, social and intellectual development of the child together with an understanding of appropriate attitudes and skills. Guest speakers are utilized and observations of children and written reports are required. Students will be required to participate in the “Baby Think It Over” project. An alternative project will be arranged for those unable to complete the Babies Reality project.

ADVANCED PLACEMENT PSYCHOLOGY (2380)
Full Year  NCAA approved course
1 Credit  Grade: 12
Prerequisite: Seniors >= 90 average in Social Studies, Juniors => 95 average in Social Studies, Teacher/director recommendation.
Course Description: The AP Psychology course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles and phenomena associated with each of the major sub-fields within Psychology. They also learn about the ethics and methods psychologists use in their science and practice. Some of the topics studied are sensation and perception, states of consciousness, cognition, and the biological basis of behavior, personality and abnormal psychology. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.

AP SEMINAR (Year One of AP Capstone) (2310)
Full Year  NCAA approved course
1 Credit  Grades: 10, 11, 12
Prerequisite: None
Course Description: This is the foundational course of the 2-year AP Capstone Program. It will provide students with the opportunities to think critically and creatively, research, explore, pose solutions, develop arguments, collaborate and communicate through various media. Students read article, research studies, and foundational and philosophical texts; listen to and view speeches, broadcasts and personal accounts; and experience artistic and literary works to gain an understanding of issues. There is a team project and presentation as well as a research based essay and presentation. Students will write for the Concord Review and participate in History Day. There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.
AP RESEARCH (Year Two of the AP Capstone) (2311)

Full Year  NCAA approved course
1 Credit  Grades: 11, 12
Prerequisite: AP Seminar

This is year two of the AP Capstone program. The course requires students plan and conduct a study or investigation. The study will employ appropriate disciplinary research methods to, manage and conduct an in depth study or investigation in an area of the student’s own interest in science or social studies, culminating in a paper to be performed or exhibited. Students will present and defend the research design, approach and findings to a panel. **There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.**

CRIMINAL JUSTICE (2290)

Full Year  NCAA approved course
1 Credit  Grades: 11, 12
Prerequisite: None

**Course Description:** The course covers the entire criminal justice system from how laws are made through public policy to the effects of economics on crime and the penal system. The principles of government are discussed. Types of crimes, criminal procedure from arrest to appeals, prosecutions against corporations, sensational and controversial topics and Supreme Court cases are among the topics covered. Crimes from the extreme violent to the corporate are discussed. Topics such as legislative reform, the cost of the war on drugs, DWI penalties, hate crimes, insurance fraud, and the death penalty are analyzed. The economic factors which surround rehabilitation versus incarceration are debated. The course involves current events and court cases as well as a trip to the Suffolk County jail. It is recommended that this course be taken as an introduction to Law Enforcement cohort to those students who will be involved.

YOGA, MEDITATION AND EASTERN PHILOSOPHIES (2240)

Half Year
1 Credit  Grades: 9, 10, 11, 12
Prerequisite: None

This elective course will focus on the history and philosophy of Yoga and meditation as well as the cultural connections to various philosophies such as Hinduism and Buddhism, Jainism and Daoism. Students will analyze primary sources, literature and art. They will develop an understanding of the mind and body connection while engaging in kinesthetic movement. They will be introduced to Vinnitsa (flow), Yin (restorative) and chair yoga.

AP HUMAN GEOGRAPHY (2390)

Full Year  NCAA approved course
1 Credit  Grades: 10, 11, 12
Prerequisite – 9AP Prep, 10AP World or 11AP US and teacher/Director recommendation.

**Course Description:** The purpose of the AP Human Geography course is to introduce students to the systematic study of patterns and processes that shaped human understanding, use and alteration of the Earth’s surface. Students will engage in the skills of:
- Interpreting maps
- Explaining the implications of networks among phenomena in places
- Evaluate the regionalization process
- Analyze changing interconnections among places.

The course leads to a greater global understanding of where we live and why we live there. **There is a required summer assignment. All students enrolled in this class are expected to take the College Board AP exam.**
The Technology Education Department at the Patchogue-Medford High School is proud to offer a combination of introductory and advanced courses that prepare students for further study in Technology Education at the post-secondary level. Students will be challenged to explore, create, understand and solve industrial and technological problems through practical experiences and applied critical thinking in each of the courses offered. Students will demonstrate an understanding of how materials are formed into products by people using sophisticated machines and how these products help society progress.

TECHNOLOGY SEQUENCE
Students who complete 5 credits of Technology Education classes are exempt from the Language requirement needed for the Advanced Regents Diploma.

INTRODUCTORY COURSES
8010  PRODUCTION SYSTEMS (Fall or Spring, 1/2 credit)
8020  WORLD OF TECHNOLOGY (Fall or Spring, 1/2 credit)
8025  WORLD OF TECHNOLOGY (Full Year, Alternating Days, 1/2 credit)
8040  ELECTRICAL TECHNOLOGY (Full Year, 1 credit)
8110  TECHNICAL DRAWING I (Fall or Spring, 1/2 credit)
8115  TECHNICAL DRAWING I (Full Year, Alternating Days, 1/2 credit)
8150  ARCHITECTURAL TECHNOLOGY I (Full Year, 1 credit)
8091  ROBOTICS I (Full Year, Alternating Days, 1/2 credit)
3241  ROBOTICS AND ANIMATION PROGRAMMING (Full Year, 1 credit)

ADVANCED COURSES
8015  MATERIALS PROCESSING (Fall or Spring, 1/2 credit)
8060  WOOD TECHNOLOGY I (Full Year, 1 credit)
8065  WOOD TECHNOLOGY II (Full Year, 1 credit)
8120  TECHNICAL DRAWING II (Spring, 1/2 credit)
8130  TECHNICAL DRAWING 3D (Spring, 1/2 credit)
8160  ARCHITECTURAL TECHNOLOGY 2 (Full Year, 1 credit)
8088  PRINCIPLES OF ENGINEERING (Full Year, Alternating Days, 1/2 credit)
8092  ROBOTICS II (Full Year, Alternating Days, 1/2 credit)

All courses in our Technology department will have the potential to fulfill the credit/hours needed to earn a CDOS credential.
PRODUCTION SYSTEMS (8010)
Half Year
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course deals with how products are manufactured. Students will research project ideas, design and produce a product using various tools, machines, materials, and processes used in the manufacturing industry. At the conclusion of the course, each student will keep the product produced in class.

MATERIALS PROCESSING (8015)
Half Year
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: 8010
Course Description: This course provides students with a broad view of the way materials are transformed into useful products. The similarities and differences will be discussed for each material used. At the conclusion of the course, each student will keep the product produced in class.

WORLD OF TECHNOLOGY
(8020) Half Year (8025) Full Year - Alternate Days
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course will provide students with opportunities to develop problem-solving skills through creative thinking, decision-making, and team problem solving experiences. Students will develop an understanding of the design process used in industry and use those skills to solve engineering problems similar to those in the real world. Products fabricated in this class require research, extensive testing and modifications. This course may be used as one-half credit required in the area of Physical Setting Science to meet graduation requirements.

TECHNICAL DRAWING I
(8110) Half Year (8115) Full Year- Alternate Days
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course is an introduction to the popular AutoCAD Drafting Program used in industry. AutoCAD software is used by architects, land surveyors, mechanical engineers, electrical engineers, and various technical industries/trades. Students will learn the basics of AutoCAD 2015 and will render mechanical drawings that get progressively more complex.

ARCHITECTURAL TECHNOLOGY 1 (8150)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: This course is designed to introduce students who are interested in learning the various skills used in the field of Architecture. Students will explore different architectural styles, local residential home design and construction, create various floor plan designs and explore site development and civil engineering concepts. Students wishing to consider a career in the Architectural Drafting/Design Industry will benefit greatly from this curriculum.

ELECTRICAL TECHNOLOGY (8040)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: None
Course Description: Through a hands-on approach, this course provides an introduction to electricity and basic electronics. Emphasis is placed on electrical safety, soldering technique, the production of electricity, common electrical devices, circuit construction, solar power, and application of scientific laws such as Ohm’s law. Students will learn to use electrical measuring devices with applications to television, radio, audio and other electronic components. Students will develop the skills needed in industry through continuous laboratory experiences.
ROBOTICS I (8091)
Full Year- Alternate Days
1/2 Credit Grade Levels: 9, 10, 11, 12
Prerequisite: None
Course Description:
Robotics I is a fun, engaging, challenging, hands-on project-oriented course that allows students to be creative, focused and solution oriented as they build a robot. Students will learn the basics of robotics engineering, from design all the way up to a semester ending classroom competition between robots. Students will be introduced to the different components of robotics that include Materials, Drivetrains, Super Structures, Electronics, Pneumatics, Control Systems, and Computer Aided Design.

ROBOTICS AND ANIMATION PROGRAMMING (3241)
Full Year
1 Credit Grades: 9, 10, 11, 12
Prerequisite: >= 80 final average in Algebra I OR >= 80 final average in Math 8R or teacher recommendation
Course Description: Students will explore the exciting world of computer programming by being introduced to fundamental programming concepts using the high-level languages of Terrapin Logo graphics, ALICE, and Lego Mindstorms. Terrapin Logo is a full-featured computer language that is designed to support constructive learning. The student will gain practical experience in “turtle graphics” and will be exposed to beginning level programming at the same time. This course is also an introduction for learning to program with ALICE Animation. Students will create animation projects using Alice, a software package for creating animation in small virtual worlds using 3D models in Pixar and Disney animation style. Students will also learn ROBOTICS using Lego Mindstorms and Robot-C to introduce the way computers control motors and sensors to make things move, light up and make sounds. Actual hands-on designs will be programmed, documented and constructed using a team approach. This course is the first in a sequence of four Computer Science courses offered at Patchogue-Medford HS.

WOOD TECHNOLOGY I (8060)
Full Year
1 Credit Grades: 10, 11, 12
Prerequisite: Production Systems or Materials Processing
Course Description: This course provides detailed instruction in furniture making. Using advanced methods of wood joinery, students will design, estimate, plan, and finish a piece of furniture. Advanced machine use and fabrication tricks of the trade will be covered. Safety in the shop environment is taught and reinforced in detail and practiced by students on a daily basis.

WOOD TECHNOLOGY II (8065)
Full Year
1 Credit Grades: 11, 12
Prerequisite: Wood Technology I
Course Description: This course provides the next level of wood technology instruction leading to furniture making. Using advanced methods of wood joinery, students will design, estimate, plan, and finish a piece of furniture and build on their Wood Technology experiences. Advanced machine use and fabrication tricks of the trade will be covered. Safety in the shop environment is covered in detail and practiced by students on a daily basis.

TECHNICAL DRAWING II (8120)
Half Year - Spring Semester
1/2 Credit Grades: 9, 10, 11, 12
Prerequisite: Technical Drawing I
Course Description: This course expands on the skills developed in Technical Drawing 1. Students will begin to create objects that can be printed using the MakerBot Replicator Desktop 3D Printer. Also, students will learn advanced AutoCAD 2015 commands and drawing techniques used in industry, including three-dimensional views, isometric views, and cross sectional views. The skills mastered in this course are highly marketable in the engineering, fabrication, and manufacturing industries here on Long Island.
TECHNICAL DRAWING 3D (8130)  
Half Year - Spring Semester  
1/2 Credit Grades: 10, 11, 12  
Prerequisite: Technical Drawing 2  
**Course Description:** This course expands on the technical drawing skills learned in Technical Drawing I & II. Using the popular 3D Modeling Software SolidWorks, students will learn advanced 3D modeling and imaging skills used by engineering firms in industry. Drafting areas covered include creating 3D drawings using advanced 3D features, rendering 3D drawings, editing and visualizing 3D solids and exploring 3D mesh modeling. Students will use their new skills to solve problems by designing prototypes, printing 3D models, and testing their designs for accuracy.

ROBOTICS II (8092)  
Full Year - Alternate Days  
1/2 Credit Grade Levels: 11, 12 and members of the robotics team  
Prerequisites: Robotics I  
**Course Description:** In Robotics II, students will use their previous knowledge from Robotics I to expand their understanding of how the many components of a FIRST robot functions. Gaining a better understanding of how each individual part comes together to form a complex system will lead to assisting in the design and construction process of the FIRST competition robot. Students will develop STEM skills to help create a robot that will complete a task that will be announced in January of each year.

ARCHITECTURAL TECHNOLOGY 2 (8160)  
Full Year  
1 Credit Grades: 10, 11, 12  
Prerequisite: Architectural Technology 1  
**Course Description:** This course provides the advanced student with an opportunity to express creativity in the application of all the fundamental principles, concepts and skills the student learned, through a major project. Students will design and construct a scale model of the home or building they design.

PRINCIPLES OF ENGINEERING (8088)  
Full Year - Alternate Days  
1/2 Credit Grades: 11, 12  
Prerequisite: Final average >= 85 in AP Physics or Physics Regents AND final average >= 85 in Algebra II.  
**Course Description:** Principles of Engineering is an upper level course that is intended to educate prospective college engineering students to the multiple levels of engineering careers that exist. Students will experience how each of these disciplines interact in order to provide solutions to real world problems. Scenarios will be presented that require students to work in a tiered team approach to solving problems. Students will also practice documenting and communicating their solution proposals to members of the professional community.
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PATCHOGUE-MEDFORD HIGH SCHOOL
NAVY (SEAL) LT MICHAEL P. MURPHY CAMPUS