

# Program of Studies

2021-2022



**Pequannock Township High School**  
**Pompton Plains, New Jersey**

[www.pequannock.org](http://www.pequannock.org)

**Pequannock Township High School**

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## WBL Coordinator

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*Pequannock Township High School is accredited by the Middle States Association of Colleges and Secondary Schools and by the New Jersey Department of Education.*

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## ***Introduction***

The academic program at Pequannock Township High School is designed to satisfy both the needs and interests of students and to cultivate the intellectual curiosity, skills, and knowledge needed to contribute as a responsible and productive citizen of the global community. In order for students to gain the most from their high school educational experience, we urge careful course planning that involves the student, the parents, the teachers, and the counselor. This collaboration will result in a comprehensive educational program that is adapted to meet individual needs, as well as, state and local graduation requirements. As you examine the course selections in this booklet, please consider not only short-term plans, but also your long-term goals. The curriculum encompasses a broad spectrum of diversified courses of study from which appropriate choices can be made. Pequannock High School looks forward to working with you in this exciting educational experience!

## ***General Information***

This booklet contains a description of courses for the 2021-2022 instructional program. It may also cover courses that have been offered in the past, but are not scheduled this year. Such courses may or may not be offered again in the future. It also outlines information about the school counseling department, graduation requirements, guidelines for entrance and withdrawal from courses, grading scales, standards for class placement, and athletic eligibility.

## ***Affirmative Action***

The Board of Education of the Pequannock Township School District affirms its responsibility to ensure equal educational opportunity to all students in its public schools regardless of ancestry, color, creed, national origin, race, religion, sex, and social or economic status.

## ***School Counseling Philosophy and Objectives***

The philosophy of the School Counseling Department is an educational commitment to produce students capable of functioning to their fullest capacity in our world of continuous change - a democratic society in which individuals meet obligations as well as exercise rights and assume responsibilities.

To accomplish this goal, the following objectives have been established:

- To provide students an educational opportunity commensurate with their abilities in accordance with the resources of the school.
- To offer students the academic, vocational, cultural, social, and emotional tools, which make it possible for them to cope with a complex world and to communicate with others effectively, intelligently and constructively.
- To give all students, to the best of their abilities, the opportunity to develop a fund of knowledge and talents.
- To give all students the opportunity to develop an understanding of self and others.
- To give all students the opportunity to develop recognition and a respect for the rights

and responsibilities of adult life.

## ***School Counseling Program***

The student/counselor relationship plays an important role in the student's school life. During a series of conferences spanning the middle school and high school years, counselors help students adjust to school and to plan the courses of study that will best meet their future goals. Parents are asked to join their student(s) in these meetings.

In order to plan a comprehensive, individualized school counseling program, the department maintains or arranges:

- Information regarding counseling services and resources
- Records of each student for use in applications or recommendations to employers or colleges
- Personality and career interest inventories through Naviance
- Access to Naviance, an extensive computerized information system. With a focus on two / four-year colleges, trade schools and scholarships
- Periodic visits to the school by representatives of leading colleges and technical schools

Students wishing to discuss their programs are encouraged to make additional appointments with their counselor. Parents are also welcome to obtain information from the school counseling department and to make an appointment whenever they feel it is needed.

## ***Realtime***

Realtime is a web-based program that allows parents to check on their child's grades and attendance from any computer with an Internet connection. We invite all parents of PTHS students to register.

For new registrants, login information will be mailed via letter from the main office of the high school. These credentials can then be used to set up your own username and password. If you have difficulties with Realtime, please contact the school counseling office at 973-616-6009.

## ***Graduation Requirements***

Graduation diplomas shall be awarded by the Board of Education to those students who successfully fulfill the following requirements:

- A minimum of 140 credits shall be earned
- Credits shall be earned from the following:

**Core Requirements:****Years and credits**

English	4	20 credits
World History/Cultures	1	5 credits
U.S. History	2	10 credits
Physical Education / Health	4	15 credits
Science	3	15 credits
Mathematics	3	15 credits
World Languages	2	10 Credits
Financial Literacy	.5	2.5 Credits
21st Century Life and Careers	1	5 Credits
Visual Arts / Performing Arts	1	5 Credits

- Algebra I and Algebra II courses that are split into two years count as one year of math toward the state requirement.

Please see the following link to the district [High School Graduation Policy- 5460](#)

[New Jersey High School Graduation Assessment Requirements](#) (As of April 2020)

**The following courses, when successfully completed, will count toward the graduation requirement in Visual and/or Performing Arts:**

Visual Arts I	AP Studio Art	Piano 1
Visual Arts II	Music Theory	Piano 2
Visual Arts III	AP Music Theory	Concert Band
Digital Arts I	Music Technology	Honors Concert Band
Digital Arts II	Concert Choir	Dance
Digital Arts III		Theater

**The classes listed below, when successfully completed, will count toward 21st Century Life and Careers requirement identified above:**

Contemporary Business	Entrepreneurship & Leadership	Digital Arts I, II, III
Information & Technology	Computer Aided Design	Senior Capstone
Marketing I	Game Design	Television Production
Marketing II	Engineering Design & Development	Digital Media Design
Marketing Capstone	Work Based Learning (WBL)	AP Computer Science

## ***Transfer Students***

Transfer students who enroll in Pequannock Township High School may receive credit toward graduation for courses taken in properly accredited high schools outside the school district. However, they must meet the state requirements for graduation.

## ***Students with Disabilities***

The graduation requirements for students with disabilities are prescribed by an Individualized Educational Program determined by the Child Study Team. Successful completion of these requirements, in keeping with state and local requirements, will make the student eligible for graduation.

## ***Commencement***

A commencement will be conducted each June to honor and recognize students who have become eligible to graduate from high school since the commencement program of the previous year.

## ***Grading System***

Final grades for all subjects completed at Pequannock Township High School or an approved summer school program while enrolled at Pequannock Township High School, except those designated as EXEMPT, MEDICAL, NG (no grade), INC, WP (withdraw passing), WF (withdraw failing), P (pass), and F (fail) are used in computing grade point average (GPA). The grading scale, used for reporting student progress, is a numerical grade based on a 100-point scale. **A passing grade is 63.**

GPA weighting is determined as follows:

- **Academic** courses are worth 100%  
(multiply numerical grade by 1.0)
- **Honors** courses are worth 105%  
(multiply numerical grade by 1.05)
- **AP** courses are worth 110%  
(multiply numerical grade by 1.10)

## ***Course Change Requests***

### **Dropping/Adding Courses**

The deadline for dropping or adding courses is **June 14, 2021**.

## ***Level Changes***

Changing a student's academic program once classes have started disrupts the learning and teaching process and is strongly discouraged. The following guidelines and procedures are used in



dealing with requests for educationally sound changes to a student's schedule after the school year has begun.

1. Guidelines

- a. Schedule changes require approval from all of the following: student's parent/guardian, school counselor, academic supervisor and the Principal.
- b. A student who wants to make a change in his/her schedule must complete all steps listed below:
  - i. First, speak with a school counselor to ensure that there are available seats in the class and that another class will not be overloaded in the move. If the change is feasible, the counselor will prepare forms for academic supervisor, administrator and parent approval.
  - ii. Meet again with the school counselor to establish whether academic supervisor, administrator and parent approval has been secured.
  - iii. Continue to attend all classes previously scheduled until final approval is received from all involved teachers.
- c. Information regarding Level Changes:
  - i. A student may change levels within a subject (e.g. Honors Geometry to Geometry) until the last school day in September, subject to availability. The student earns a full year of credit for the new course upon successful completion.

2. Credit, Grading, and Record of Schedule Changes:

- a. A student withdrawn from a class prior to October 1st will have no notation of such made on his/her transcript. After October 1st, one of the following notations will be entered on the transcript:
  - i. Withdrawn Passing (WP) if the student's total average for the course to date is a passing one. This grade will not be calculated into the student's overall grade point average.
  - ii. Withdrawn Failing (WF) if the student's total average for the course to date is a failing one. This grade will be entered on the transcript and calculated in the student's overall grade point average.
- b. No credit is given for a course from which a student is withdrawn.
- c. When a student changes from one course to a similar higher or lower level course (e.g. English to Honors English, Honors Physics to Physics), the grade to date which a student has earned will transfer to the new course and be averaged with the grades subsequently earned in the new course.

## ***Class Rank***

Pequannock Township High School no longer publishes class rank. Rank is confidentially computed for the purposes of scholarship, financial aid and to determine the selection of the Valedictorian and Salutatorian from the senior class based on the end of the third marking period senior year.

## ***Honor Rolls***

***Distinguished Scholars:*** To be eligible to be a Distinguished Scholar, a student must receive 90% or higher in all courses.

***High Honor Roll:*** To be eligible for the High Honor Roll, a student must receive 90% or higher and only one 80-89% in all courses.

***Honor Roll:*** To be eligible for the Honor Roll, a student must receive 80% or higher in all courses.

## ***National Honor Society***

Membership in the Neva Fenner Chapter of the National Honor Society is one of the highest awards that our high school can confer upon a member of the student body. A student is selected on the basis of scholastic achievement, qualities of leadership, well defined service rendered to the school and/or community, and character. The cumulative average at the end second marking period of junior year will be used for purposes of eligibility.

## ***Scholarships***

A wide variety of scholarships are available to seniors, such as those awarded by the State of New Jersey, colleges and universities, civic groups, PTA's, parent organizations and a plethora of other organizations.

Announcements of available scholarships are made by the school counseling department via posting on the Scholarship Listing on the Naviance website.

## ***Course Selection***

Student scheduling begins in the winter, and class schedules generally are finalized before the school year ends. Course choices related to one's particular interests and plans for the future need to be made with the following guidelines in mind.

1. Teacher recommendations are based on progress up through mid-year. Rubrics are used for teacher recommendations to assist in best determining student placement. The master schedule is created based on this data and cannot be adjusted to accommodate additional students beyond maximum available seating.
2. Where courses are sequential, one may pursue a higher level only after adequately mastering the previous level as determined by departmental recommendation.
3. Partial credit is not given. For a student to earn credit for a course in which he/she is enrolled, the entire course must be completed successfully.

## ***Course Offerings***

In the pages that follow, courses are grouped by subject areas, which are organized alphabetically. Grade level limits, course prerequisites, and descriptions of course content require careful attention.

Requests to enroll in specific courses when stated guidelines are not fully met will be reviewed by the academic department, School Counseling department, and the high school administration.

Courses meet as follows:       5 credits – full year  
  2.5 credits – semester

A course will be canceled when there is insufficient enrollment. When this happens, students who have requested that course will be asked to make an alternative selection.

### ***Selection for Special Courses***

Courses designated as “Honors” or “Advanced Placement” are intended to serve the needs of highly motivated, academically advanced students. Admission and continued enrollment is dependent upon the student meeting the following required components of the rubric score.

- Department recommendation,
- Superior ability and/or achievement in previous coursework in the subject area,
- Continuing evidence of effort and achievement commensurate with honors level work as evidenced by performance in current class and teacher recommendation.

### ***Advanced Placement***

The advanced placement program is a cooperative educational endeavor between secondary schools, colleges and universities. Advanced placement programs consist of college level courses and exams that provide high school students with the opportunity to receive advanced standing which may be earned by securing a designed rating by the College Entrance Examination Board. Enrollment in an advanced placement course is dependent upon department recommendation.

The following AP Courses are offered at Pequannock Township High School:

- |                          |   |
|--------------------------|---|
| AP Biology               | AP Literature and Composition             |
| AP Chemistry             | AP Language and Composition               |
| AP Environmental Science | AP Music Theory                           |
| AP Physics               | AP Psychology                             |
| AP Calculus AB           | AP Capstone (AP Seminar and AP Research*) |
| AP Statistics            | AP Studio Art                             |
| AP Government & Politics | AP Computer Science Principles            |
| AP United States History | AP World History: Modern                  |

## ***PTHS College Credit Opportunities***

### ***Middle College***



The Middle College Program provides eligible students an opportunity to earn college credits while still in high school.

The following courses are approved by Fairleigh Dickinson University's Middle College Program, and may be offered at Pequannock Township High School:

- AP Biology
- AP Calculus
- AP Chemistry
- AP English Language and Composition
- AP English Literature and Composition
- AP French
- AP Government and Politics
- AP Studio Art

### ***Project Acceleration***



Project Acceleration is a program within the College of Arts and Sciences, provides eligible students an opportunity to earn college credits while still in high school.

The following courses are approved by Seton Hall University's Project Acceleration, and may be offered at Pequannock Township High School:

- Biology w/ Lab - STEM
- AP Calculus
- Chemistry w/ Lab - STEM
- AP English Language & Composition
- AP Environmental Science
- Introduction to Computer Science I
- Introduction to Computer Science II
- Modern Computing Applications I - STEM
- Modern Computing Applications II - STEM
- Physics w/ Lab- STEM
- AP US History

## ***Options for Advanced Academic Achievement***



The Options for Advanced Academic Achievement Secondary School Partnership Program provides eligible students an opportunity to earn college credits while still in high school.

The following courses are approved by NJIT, and may be offered at Pequannock Township High School:

Engineering Graphics & Introduction to AutoCAD (AutoCad/3D Prototyping)  
Applied CAD

### ***What Makes a Student Successful?***

One of the most difficult decisions members of a school community are asked to make is whether or not particular students should or should not elect to take an Honors or Advanced Placement course or start an advanced sequence of courses in a particular subject area. Multiple criteria such as previous grades, teacher recommendations, standardized test scores, and placement tests are employed with a great deal of accuracy to predict which students will meet with success in advanced courses. However, we recognize that there are no foolproof criteria. The following guidelines define the behaviors of successful students. Those students considering enrolling in advanced classes should read through the list:

- Successful students read independently, regularly, and widely and they read quality works of fiction and nonfiction.
- Successful students have a sense of purpose and direction. They have goals for the future and are continually working toward attaining those goals.
- Successful students attend class regularly and on time. If they miss a class, they let the teacher know why and make sure they get all assignments.
- Successful students participate in class. They are involved in class discussions, ask questions, work well in groups, and raise the academic level of their peers.
- Successful students see their teacher before or after class about grades or comments made on their papers and about upcoming tests.
- Successful students turn in all assignments on time. They take time to produce a final project that best reflects their learning.
- Successful students work diligently both inside and outside of school. They take notes and annotate while reading. Their class notes are used to make connections to prior knowledge, they jot down questions to ask of the teacher, and seek to clarify the information. Finally, they reflect on key learning from each lesson. The work that is submitted is authentic and represents their ideas and/or research.

## ***Alternative Study Options***

- A. Title I – in which a student will receive individualized instruction in reading comprehension, writing development and study skills during the school day from a certified teacher.
- B. Summer School – in which students pursue work for enrichment or for remediation at state approved summer schools. Prior approval from the Principal is required.
- C. Vocational Education – in which students select specific, career-oriented courses from the offerings of Morris County School of Technology. (See your school counselor for program information and availability.) One half of the school day is spent at the technical school, the other half at Pequannock Township High School.
- D. Work-Based Learning (WBL) – The Work-Based Learning (WBL) program offers students the opportunity to enhance both academic and vocational skills through coursework and an internship experience. This program takes the place of senior year electives and needs to be requested during the regular scheduling process.
- E. Senior Capstone – The Senior Capstone is a program that provides an opportunity for eligible PTHS seniors to spend a portion of their last year of high school in professional internships with local companies or in-service learning experiences.
- F. AP Capstone - There are two courses encompassed in AP Capstone (AP Seminar and AP Research.) AP Seminar encourages students to explore topics that matter to them (real-world issues), use inquiry, and develop research-driven essays. By the end of the year, students analyze multiple perspectives and ideas, and formulate arguments to craft well-written work. AP Research, year two of the AP Capstone Program, offers a deeper exploration of AP Seminar.
- G. Option II- Students are permitted to earn credit toward graduation through Option II learning experiences. These experiences include, but are not limited to: interdisciplinary or theme-based programs, independent study, early college credit, magnet programs, student exchange programs, distance learning, on-line learning, work-based programs, internships, service learning, co-curricular or extra-curricular programs, and/or other structured learning experiences. Participation in Option II is predicated on the application process through which students seek approval. The process for application, evaluation and assessment is detailed in the forms. Provided on the [high school guidance website](#). Attainment of credit toward graduation is based on the successful completion of assessments that verify student achievement in meeting or exceeding the New Jersey Student Learning Standards at the high school level.

## ***Special Services***

The Special Education program in the high school provides classes for students who need and will benefit by individual and small group instruction.

The services of the school psychologist, social worker, learning disabilities teacher consultant, and related services providers are available to students and parents. The Child Study Team, composed of these members, meets with the counselors, teachers, and parents to assist students in possible need

of referral. Supplemental instruction is provided to students who are found eligible for special services by the Child Study Team.

## ***Tutoring***

Students who are in need of additional academic support can request assistance through the Honor Societies Advisors. Student tutors are members of the National Honor Societies and tutor on a voluntary basis. Tutoring is available before/after school and during the group lunch period. To request a tutor, complete this form:

[https://docs.google.com/forms/d/e/1FAIpQLSdK3KhjppIKdYRMHTYaoDFdHWFBI37W4YUWYmr1wbaOrAde1w/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSdK3KhjppIKdYRMHTYaoDFdHWFBI37W4YUWYmr1wbaOrAde1w/viewform?usp=sf_link)

## ***Athletic Eligibility***

A student must have earned a minimum of 30 credits in the previous academic year to be eligible to participate in a fall or winter interscholastic athletic team. To be eligible for a spring team, the student must successfully complete 15 credits in the preceding semester. First semester freshmen have no credit requirements.

## ***College Admission Requirements***

Colleges differ significantly in their admission requirements, but generally expect students to have completed at least sixteen (16) full-year academic courses in the disciplines of English, world languages, mathematics, science, and social studies. Some institutions may accept courses within the fine and practical arts, business, computer, and technology fields, especially if these relate to an intended college major. Students are responsible for consulting the publications of specific colleges for definitive requirements. Many colleges have very demanding admission standards. Often they have several applications for every opening. These colleges expect a student's high school academic background to be more extensive than the sixteen-course program. Students should work with a counselor to develop a four-year program that will not only satisfy general distribution requirements, but also address personal goals.

# ***English***

## **ESL/ELL ENGLISH**

Grades: 9-12

Credits: 5

Prerequisite: None

Pequannock Township's English as a Second Language Program is designed to ensure that English Language Learners in ninth through twelfth grade develop listening, speaking, reading, and writing skills in English to enable their full participation in the school and community environments. The ESL program is delivered through small group instruction by a certified ESL teacher and focuses on BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency). English Language Learners are provided access to on-grade level content and skills through the use of materials appropriate to the language proficiency levels of the students.

## **ENGLISH I**

Grade: 9

Credits: 5

Prerequisite: None

The English I course, an introduction to literary perspectives from around the world, develops critical reading, analytical writing, and vocabulary, grammar, and research skills. Students will closely read a variety of classic and contemporary fiction and nonfiction selections including novels, short stories, epics, poems, plays, and primary source documents. Each unit contains a comprehensive study of a particular writing genre (narrative, expository, persuasive/argumentative, and literary analysis) as well as an introduction and reinforcement of literary terms and devices. Students will be challenged to build and broaden their reading, writing, and critical thinking skills, laying a foundation for their subsequent courses of study. Completion of a summer reading assignment is required for this course.

## **ENGLISH I HONORS**

Grade: 9

Credits: 5

Prerequisite: Meets Honors Rubric Requirements

The English I Honors course allows students to enhance their critical reading, analytical writing, and research skills through exposure to literary perspectives from around the world. Students will apply close reading strategies to a wide variety of text. Students will enrich their vocabularies and understanding of grammar. In addition to the proficiencies required of the students in the English I course, the honors students will approach required and supplemental texts at an advanced speed with a greater emphasis on literary criticism and analysis. Completion of a summer reading assignment is required for this course.



## **ENGLISH II**

Grade: 10

Credits: 5

Prerequisite: Successful completion of English I

The English II course explores the developing “American voice” from 18th century to contemporary literature. Through a range of fiction and nonfiction texts, students will strengthen active and critical reading by examining text structures, cultural perspectives, point of view, and an author’s use of diction and syntax, and how combined they contribute to the work as a whole. Students will incorporate varied writing methods such as narrative, analytical, and expository writing that will emphasize the use of logical subordination, organization, and appropriate transitional devices. The ability to present thorough and comprehensive arguments will be emphasized in discussion, debate, and writing. Vocabulary and grammar skills will be reinforced and enhanced throughout the units. Completion of a summer reading assignment is required for this course.

## **ENGLISH II HONORS**

Grade: 10

Credits: 5

Prerequisite: Successful completion English I and teacher recommendation

The English II course explores the developing “American voice” from 18th century to contemporary literature. Through a range of fiction and nonfiction texts, students will strengthen active and critical reading by examining text structures, cultural perspectives, point of view, and an author’s use of diction and syntax, and how combined they contribute to the work as a whole. Honors students should demonstrate their ability to write varied genres of expressive and transactional papers, incorporating source material into the text of a paper smoothly and correctly. Enrichment of vocabulary and advancement of grammar and research skills will be integrated throughout the units. The honors course work is designed to prepare students for higher level studies in English literature. In addition to the proficiencies required of the students in English II, the honors students must fulfill the additional reading and related writing, viewing or speaking assignments taken from the required and supplemental works. Completion of a summer reading assignment is required for this course.

## **ENGLISH III**

Grade: 11

Credits: 5

Prerequisite: Successful completion of English II

This course builds upon the reading and writing standards from grades 9-10 to help strengthen their language arts skills within the context of British Literature. Students will closely read short and full-length works and engage in analytical discussions. This course will require students to write informal and analytical essays on a variety of personal and literary themes with an examination of British Literature. Writing tasks across the course will develop the expressive power of student writing through stress on the logic of thought, the strength of evidence, and the refinement of style. Analytical writing will emphasize responses to close reading along with a required research paper. SAT

strategies, selected vocabulary, and grammar skills focusing on usage and mechanics in writing will be emphasized throughout the units. Completion of a summer reading assignment is required for this course.

### **ENGLISH III HONORS**

Grade: 11

Credits: 5

Prerequisite: Successful completion English II and teacher recommendation

This course builds upon the reading and writing standards from grades 9-10 to help strengthen their language arts skills within the context of British Literature. Students will closely read short and full-length works and engage in analytical discussions. This course will require students to write informal and analytical essays on a variety of personal and literary themes with an examination of British Literature. Students must demonstrate that they are able to write with greater explanation, emphasizing logic of thought, the strength of evidence, and the refinement of style. Analytical writing will emphasize responses to close reading along with a required research paper. In preparation for advanced studies, the honors students will have additional readings and writing assignments that must be fulfilled. Completion of a summer reading assignment is required for this course.

### **AP ENGLISH LANGUAGE AND COMPOSITION**

Grade: 11 or 12

Credits: 5

Prerequisites: Successful completion of English II or III and department recommendation

The goal and purpose of AP Language and Composition is to help students “write effectively and confidently in their college courses across the curriculum and in their profession and personal lives.” Organized according to the requirements and guidelines of the current AP English Course description, the course presents a variety of reading and writing opportunities whereby students first examine and identify writers’ rhetorical choices in several examples of a particular mode of writing, and then practice those strategies in crafting original personal narratives, expository writing, and argumentative essays. Students will become critical consumers of a variety of texts and articulate their analysis clearly in both writing and speech. Students will gain an awareness of how writers’ linguistic choices create effective writing and stylistic effects as well as how to incorporate these techniques in their own writing.

### **AP ENGLISH LITERATURE AND COMPOSITION**

Grade: 11 or 12

Credits: 5

Prerequisites: Successful completion of English II or III and department recommendation

A college level course, AP English is designed to prepare students for the AP Literature and Composition test, which all students are expected to take. Students will develop mastery of skills required for the test and excellence throughout their college studies. The course provides a

comprehensive overview and intensive study of major works and types of literature, taking into account works already studied in high school and supplementing this with intensive study of significant pieces of literature from a wide variety of genres, cultures and time periods. Students write frequently, demonstrating careful analysis and attention to textual detail. They analyze and discuss the structure, style and themes of works, bearing in mind the historical contexts in which the works were produced and the social structures they reflect.

### **ENGLISH IV/ENGLISH IV HONORS**

Grade: 12

Credits: 5

Prerequisites: Successful completion of English III

During Junior year students are given the opportunity to vote on the genres of literature that will be presented during their senior English classes. Students choose from Dystopian Literature and Science Fiction, Contemporary Fiction, War and Genocide in Literature and World Mythologies. The top two choices of the grade 11 student population will be the linked English IV courses. In this course students will continue to develop their critical reading, writing and analytical skills by examining a variety of literature in an array of genres. Students will read, analyze, and compare selected articles, stories, epic poems, and excerpts of novels and participate in an array of assessments from writing literary responses to essays, analyze universal themes across genres, and make logical arguments and use evidence to defend their positions. Students will focus on mastering the various elements of writing such as developing a thesis, improving use of conventions and styles of writing, and providing a strong analysis, evidence, and support to create a research paper. Students are expected to complete a research paper in either the first or second semester of Grade 12. **Additional readings and writing that involve critical analysis and reasoning will be required of Honors students.**

**The strands students will vote on include:**

#### ***DYSTOPIAN LITERATURE & SCIENCE FICTION***

Here students will examine alternative societies through texts that reveal the negative or frightening aspects and realities of our world. By analyzing concepts of mass devastation, political and cultural oppression, widespread poverty and suffering, or public distrust, students will explore authors who examine these topics and their impact on humanity and will be asked to write, compare, analyze, and present those ideas and themes as an assessment of their learning.

#### ***CONTEMPORARY FICTION***

Contemporary fiction provides students with a window to the realistic world. Unlike fantasy or science fiction, contemporary fiction is set in modern times and reflects the current challenges, situations, and lives of contemporary fictional individuals and young adults. Stories may explore political motivation, raise social awareness, and present society in a manner that expresses the cultural values and questions of contemporary society. Students will be asked to analyze, write, and compare a variety of texts and examine their influences on today's society.

### **WAR & GENOCIDE IN LITERATURE**

War & Genocide in Literature will investigate the different ways that regimes shaped the radicalization of mass violence in the first half of the 20th century and from 1945 on. The course covers periods of war, the rise of the Cold War and corresponding peace culture in Europe during the 1980s, and the return of genocide across continents in the 1990s. Special attention will be paid to the analysis of political discourses, propaganda, and race and gender practices. Students will engage in critical analysis of scholarly work, written testimonies, literature, films, and propaganda materials and will produce essays that respond to their studies.

### **WORLD MYTHOLOGIES**

World Mythologies will examine the collection of stories designed to explain nature, history, and other human phenomenon. Students will explore the mythological elements that define man and our history. They will explore heroes from Greek, Roman, Norse, and Eastern cultures and will be asked to make comparisons between the gods of different societies and to draw parallels to those historical times and today. Students will read, analyze, and compare selected articles, stories, epic poems, and excerpts of novels and participate in an array of assessments from writing papers, making classroom presentations, and creating original projects.

## *English Electives*

*Please note: The following course does not fulfill the state graduation requirement for Language Arts.*

### **JOURNALISM**

Grades: 9-12

Credits: 2.5

Prerequisite: None

*(This course is linked to Creative Writing.)*

Features. Movie/Music Reviews. Sports. Editorials. Columns. Headlines. Captions. Layout. Elect a course in journalism and learn how to write for newspapers, magazines, radio and television. Conduct interviews, evaluate headlines, analyze political cartoons, and compare the same news story in a variety of print, radio, and television formats. Write, edit, and publish your work. Record your news writing on audio and video. Elect this course and share in a unique journalistic experience. Students who wish to seek a major in communications would benefit from this course.

### **CREATIVE WRITING**

Grades: 9-12

Credits: 2.5

Prerequisite: None

*(This course is linked to Journalism.)*

This course will focus on Creative Writing: fiction, poetry, playwriting with a focus on production of work for publication. This course will reinforce students' ability to write creatively in all genres.

During the year, students will design a writing portfolio representing a variety of literary forms, increase their awareness of the publishing process, incorporate the conventions of the performing arts into original scripts, and investigate college programs and career paths related to the creative arts.

## **JOURNALISM 2**

Grades: 10-12

Credits: 2.5

Prerequisite: Journalism 1

*(This course is linked to Creative Writing 2.)*

This course will build on the work from Journalism 1. Students will continue to develop their skills for print and digital news media. Conducting interviews and researching, students will write, edit and publish work as well as analyze various modes of news media to learn about effective communication. Students who choose to continue in this course will extend this unique experience for a second year. This course will particularly benefit students who are interested in the field of communications and journalism.

## **CREATIVE WRITING 2**

Grades: 10-12

Credits: 2.5

Prerequisite: Creative Writing 1

*(This course is linked to Journalism 2.)*

This course will continue the work that students began in Creative Writing 1, focusing on Creative Writing: fiction, poetry, playwriting. Students will be encouraged to delve deeper into a genre that they are interested in and continue to build their writing portfolios with hallmark representations of their work. Students who are passionate about writing will find this course a unique path to investigating college and career paths related to the creative and performing arts.

## **ELA ESSENTIALS**

Grades: 9-12

Credits: 5

Prerequisite: None

This course is designed to supplement a high school English curriculum. It has been created to assist students who have been identified as struggling with the core/basic and necessary skills to succeed in their general academic coursework. This course will equip students with strategies that will help them complete their regular education coursework with a greater level of confidence and independence. The course will address various reading and writing strategies; a strong focus will be placed on reading comprehension and analysis which will then extend to application in writing as authors of all genres. The writing strategies addressed will assist the students in transforming the information they extract from a text or writing prompt into a detailed, organized written response. Some final skills the course will address include grammar, vocabulary and figurative language.

# ***Mathematics***

## **ALGEBRA I**

Grade: 9

Credits: 5

Prerequisite: None

In this course students will use symbolic reasoning to represent mathematical situations, express generalizations, and study relationships among quantities that can be represented with linear equations, linear inequalities, and linear functions. Students will also be introduced to nonlinear functions such as exponentials and quadratics.

## **GEOMETRY**

Grades: 9, 10

Credits: 5

Prerequisite: Successful completion of Algebra 1

This course is designed to give students an understanding of the nature of a mathematical system and an appreciation of the basic structure of geometry. Emphasis is placed on the role of the inductive and deductive reasoning in mathematical situations. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: postulates and theorems of geometry, deductive reasoning of a proof, angle relationships and parallelism, proof of congruence in triangles, proof of similarity in polygons, computation of areas of polygons and circles, solution of numerical exercises relevant to circles, arcs, angles and segments, basic constructions, knowledge of coordinate geometry by determining equations of lines, simple probability, right triangle trigonometry, and volumes of solids. Summer work is required for this course.

## **GEOMETRY HONORS**

Grades: 9, 10

Credits: 5

Prerequisite: Successful completion of Algebra I and teacher recommendation

This is a course in plane and solid geometry designed for students who will take Pre-Calculus and Calculus. Emphasis is placed on proof and discovery. The student is encouraged to investigate and/or develop new proofs. It is expected that a student who successfully completes this course will have developed mastery and proficiencies in the following areas: postulates and theorems of geometry, proof by deductive reasoning, knowledge on angle relationships and parallelism, proof of congruence in triangles and similarity in polygons, computation of areas and volumes, solution of numerical exercises and proofs, basic constructions, knowledge of coordinates, solution of involved proofs, solution of problems in analytic geometry, simple probability, and right triangle trigonometry. Summer work is required for this course.

## **ALGEBRA II, Part 2**

Grade: 12

Credit: 5

Prerequisites: Successful completion of Algebra II, Part 1

Algebra II, Part 2 is the second course of a two-year program designed for students who would benefit from furthering their Algebra II readiness skills over 2 years. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: polynomials and rational expressions, solutions of linear equations and inequalities, knowledge of coordinate geometry, solution of relation and function problems, solutions of quadratic and logarithmic function problems, solutions of systems of equations and inequalities, operations on expressions involving real exponents, and simple probability. Real world modeling, application, and problem-based solving will be incorporated throughout the curriculum. ***Successful completion of Algebra II, Part 1, along with Algebra II, Part 2 will fulfill the third year Mathematics graduation requirement.***

## **ALGEBRA II**

Grade: 10, 11, 12

Credit: 5

Prerequisites: Successful completion of Geometry

This is a course in Algebra that continues exposing students to algebraic concepts. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: polynomials and rational expressions, solutions of linear equations and inequalities, knowledge of coordinate geometry, solution of relation and function problems, solutions of quadratic and logarithmic function problems, solutions of systems of equations and inequalities, operations on expressions involving real exponents, and simple probability. This curriculum will incorporate real world modeling, application, and problem-based solving.

## **ALGEBRA II HONORS**

Grades: 10, 11, & 12

Credits: 5

Prerequisite: Successful completion of Geometry and teacher recommendation

Algebra II Honors builds upon the numerical skills of arithmetic, bringing the student into the realm of generalized higher mathematics. This includes, but is not limited to general tools of Algebra, functions, equations, graphs, linear systems, matrices, quadratic equations and functions, polynomials and polynomial functions, radical functions and rational exponents, exponential and logarithmic functions, rational functions, quadratic relations, periodic functions and trigonometry, trigonometric identities and equations. In addition to these topics, Algebra II Honors also covers sequences and series, and probability and statistics. Students will utilize current technologies throughout the course and will experience a variety of activities and methodologies including reading, writing, and speaking mathematics, independent study, cooperative learning techniques, exploration and discovery, and incorporation of real world examples.

## **PRE-CALCULUS**

Grades: 11-12

Credits: 5

Prerequisite: Successful completion of Algebra 2

This is a course that deals with an in-depth analysis of circular and trigonometric functions as well as probability and statistics. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: analysis of circular and inverse circular functions, solution of problems using the laws of sines and cosines, knowledge of trigonometric addition formulas, organizing numerical data, theoretical and experimental probabilities, knowledge of conditional probabilities, solution of binomial distribution problems, fundamental operations on random variables and probability functions, using continuous distributions, and knowledge of sampling and estimation problems. Summer work is required for this course.

## **PRE-CALCULUS HONORS**

Grades: 11-12

Credits: 5

Prerequisite: Successful completion of Algebra II and teacher recommendation

This is a course that bridges the gap between Algebra II and calculus. The content includes elementary analysis, trigonometry, analytic geometry, limits, sequences and series, and an introduction to calculus. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: operating on relations and functions, knowledge of circular functions, solution of applications of trigonometry problems, sequences, series, and limits, knowledge of functions and limits, solution of algebraic functions, maxima and minima applications, knowledge of vectors, lines, and planes, derivatives of functions. Summer work is required for this course.

## **CALCULUS**

Grade: 12

Credits: 5

Prerequisite: Successful completion of Precalculus and teacher recommendation

This course is intended for those students who are going to be taking a Calculus course in college but want to get an understanding of the fundamental operations of Calculus. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: the concept of limits, the slope of the tangent to the curve, applications of differentiation, the concept of integration and the definite integral, and applications of the definite integral. Summer work may be required for this course.



## **AP CALCULUS**

Grade: 12

Credits: 5

Prerequisite: Successful completion of Pre-Calculus Honors and teacher recommendation

This calculus course is the final step in the sequence of higher-level courses in mathematics. Topics such as limits, differentiation, integrals, trigonometric and exponential functions as well as applications will be stressed. The course is designed for students having a strong mathematical background. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: knowledge of calculus limits, solution of problems dealing with differentiation, applications of differentiation, solution of definite integral problems, applications of integration, knowledge of formulas and methods on integration, and fundamental operations on trigonometric and exponential functions. Summer work is required for this course. All students enrolled in this class are expected to prepare for and take the Advanced Placement Calculus exam in May.

## **STATISTICS**

Grades: 11, 12

Credits: 5

Prerequisite: Department recommendation and successful completion of Algebra II

Statistics is the science of designing studies, gathering, data, and the classifying, summarizing, interpreting and presenting the data to explain and support decisions that are reached. Students will be exposed to four broad conceptual themes: Exploring Data by describing patterns and departures from patterns; Sampling and Experimentation by planning and conducting studies; Anticipating Patterns by exploring random phenomena using probabilities and simulations; Using Statistical Inference by estimating population parameters and testing hypotheses. Summer work is required for this course.

## **AP STATISTICS**

Grade: 11, 12

Credits: 5

Prerequisite: Department recommendation

The course will deal with many facets of data analysis. Topics will include descriptive statistics, probability, probability distributions, and inferential statistics. Examples will be taken from various fields. Technology will be used extensively. All students enrolled in this class are expected to prepare for and take the Advanced Placement Statistics exam in May.

# ***Physical Education and Health***

## **PHYSICAL EDUCATION**

Grades: 9-12

Credits: 3-3.75

Prerequisite: Successful Completion of Prior Year Level

The physical education four-course series consist of experiential courses as well as an elective program offering that progressively develop well-rounded citizens through participation in physical activities. Presented in four-week segments, these activities reflect the need and preferences of the students that they serve. Course credit is dependent upon the amount of days per week class is scheduled. The programs offered include:

Aerobics	Soccer
Badminton	Softball/Wiffle Ball
Basketball	Speedball
Floor Hockey	Team Handball
Frisbee Golf	Tennis
Football	Track/Field
Handball	Ultimate Frisbee
Indoor Games	Volleyball
Outdoor Games	Weight Lifting
Nitroball	Wellness
Pickleball	Lifetime Games

Assessment of students according to departmental standards is based on knowledge, skill, preparation, participation, and evaluation. Specifically, every student who successfully completes each physical education course is expected to have developed appropriate age-level mastery and proficiency and demonstrated an ability to: Relate good mind and body conditioning to a healthy diet and daily exercise; Construct a personal fitness program; Perform satisfactorily on the President's Challenge physical fitness testing; Participate in lifetime leisure sport activities; Exhibit sportsmanship, skill appreciation and good audience behavior; Function within a group as a useful member of a democratic society.

Students in 9th and 11th grade Physical Education classes will be assigned to Health for one marking period. Students in 10th grade will be assigned to Driver Education Theory for one marking period. Students in 12th grade will be assigned one marking period of a certified first aid course.

## **NINTH GRADE HEALTH**

Credits: 1-1.25

This course provides students with a unified basic, health program that fosters the concept that health is a most prized possession and an integral part of every phase of life. Students acquire knowledge that their level of health affects their ability to learn, to live and to relate to others.

## **TENTH GRADE DRIVER EDUCATION THEORY**

Credits: 1-1.25

Driver Education Theory is the first segment of driver education. This course is only offered to 10<sup>th</sup> grade students. Tenth grade students will be assigned into the course by date of birth and then alphabetical if necessary for placement purposes. In order for students to be able to pass the classroom instruction, they must get a grade of 63 or better. They must also pass the state of New Jersey written driving test with a grade of 80% or better. After turning 16 and passing both driver classroom instruction and the N.J. State written driving test they are eligible to take a behind-the-wheel program. After passing the 32 hours of classroom instruction and 6 hours of behind-the-wheel training, the student may be eligible for a 10% discount on insurance. ***A student must have a 70% or higher average in order to be eligible to take the State exam in class.***

## **ELEVENTH GRADE HEALTH - HUMAN RELATIONSHIPS AND SEXUALITY**

Credits: 1-1.25

The purpose of Grade 11 health is for students to examine the physical, mental, social, and sexual aspects of human development and its impact on their overall health and well-being. Students will explore various elements of adolescent development and examine how their behavior and that of others impacts their lives.

## **TWELFTH GRADE HEALTH - FIRST AID**

Credits: 1-1.25

The purpose of this course is to provide students with a personal first aid education that will afford them the knowledge to handle minor daily occurrences. In addition, the skills necessary to administer lifesaving, emergency care until trained professionals arrive will be addressed in this certified course.

## ***Related Arts***

### **ACCOUNTING I**

Grades: 10-12

Credits: 5

Prerequisite: None

Accounting is a discipline of theories, principles, and standards that promote fair and equitable reporting regardless of the chosen business or industry. In this full-year course, students will not only be introduced to the various facets of generally accepted accounting practices, they will be asked to be able to implement them through a variety of hands-on, real world based exercises that will assess their grasp on the subject. The course serves as a primer, a foundation builder, for Accounting II and Accounting III. In order to grasp the advanced concepts in the course, Accounting I serves as an arena to become acquainted with the accounting cycle and to be able to complete the most fundamental tasks as part of an organization's accounting function. The knowledge in this course will directly serve any students who plan on continuing their business and/or accounting education at the post-secondary level.

### **CONTEMPORARY BUSINESS INFORMATION & TECHNOLOGY**

Grade 9

Credits 2.5

Prerequisite: None

(This course is linked with Financial Literacy)

This course focuses on developing 21st century, college and career readiness skills. In this course, students will learn the importance of time management strategies and organization using the Google Tools and other strategies. In a global economy driven by information and innovation, students must know both leading and emerging technology tools, as well as workplace readiness skills to excel and compete effectively, such as presenting oneself through email and verbal communication. The course focuses on all aspects of information literacy, including data sourcing, analysis, evaluation, presentation and public speaking skills. Students will utilize the Google Applications for Education. The course is designed to provide students with the information and technology readiness skills and critical information analysis and evaluative skills to succeed in the 21st century.

### **FINANCIAL LITERACY**

Grade: 9

Credits: 2.5

Prerequisites: None

(This course is linked with Contemporary Business Information & Technology)

Financial Literacy is a semester course that meets the state-mandated graduation requirement for all students. This course is designed to develop a thorough understanding of the economy and the necessary skills to effectively manage personal finances. Activities, projects, and simulations will focus on the necessary elements of personal finance which include income and careers, money

management, credit and debt management, planning, saving and investing, becoming a critical consumer, citizen financial responsibility, and risk management and insurance. Personal finance topics include budgets, savings, checking accounts, investments and credit, insurance, student loans and debt, and income tax returns. ***This is a mandated requirement according to the NJ Department of Education.***

### **MARKETING I**

Grades: 9-12

Credits: 5

Prerequisites: none

Marketing I is designed to expose students to the fundamentals of business from a marketing perspective. The course starts with the foundation of economics and American business and progresses with marketing and advertising concepts. Students will be utilizing computers and various types of software applications such as Glogster, PowerPoint, Publisher, Google Slides and Excel to prepare advertising and marketing projects and to analyze typical "business" problems. The Internet will be utilized as an advertising medium. In addition, current events and trends pertaining to business will be discussed. The course provides a basic background in the field of marketing, as well as the knowledge and skills necessary for students furthering their education and/or obtaining employment in business.

### **MARKETING II**

Grades: 10-12

Credits: 5

Prerequisites: Successful completion of Marketing I

The Marketing II course is designed to teach you how to integrate the marketing and management principles you have learned into real world practice. This introduces students to advanced marketing functions and their application and impact on business operations. Marketing II builds off of the principles and concepts taught in Marketing I. Students assume a managerial perspective in applying economic principles in marketing, analyzing operation's needs, examining distribution and financial alternatives, managing marketing information, pricing products and services, developing product/service planning strategies, promoting products and services, purchasing, and professional sales. Computer projects, presentations, and simulations will be an important part of this class.

### **MARKETING CAPSTONE**

Grades: 11-12

Credits: 5

Prerequisites: Successful completion of Marketing II and with recommendation from the teacher

The Marketing Capstone course is an integration of all marketing elements in a strategic marketing framework. Using a "big picture" perspective, the student addresses strategy formulation and implementation in a business environment. The course will provide practical knowledge regarding marketing strategy from planning, formulating, and executing strategic marketing campaign. The

topics covered in this course include strategic marketing planning, marketing ethics, marketing research, competitive advantage, segmentation, branding, positioning, marketing mix (4 Ps), marketing implementation, and customer loyalty. Students (in teams) are expected to make marketing decisions that will apply to real world scenarios.

### **ENTREPRENEURSHIP & LEADERSHIP**

Grades: 9-12

Credits: 5

Prerequisites: None

This course will study starting and managing one's own business. Students will explore what skills are necessary for someone to become a successful business owner or operator. Students will examine fiscal decisions that directly impact one's financial health. Teaching students about financial planning, banking, investments, and business ownership will empower them to make good decisions and assume personal responsibility for their economic well-being. Finally, students will explore leadership attributes required to be successful in life and business through numerous group activities, individual and group research, class discussion, and community service.

### **SPORTS & ENTERTAINMENT MANAGEMENT**

Grades: 9-12

Credits: 5

Prerequisites: None

Sports & Entertainment Management is a course designed to apply both management and marketing principles and processes to the sports and entertainment industries. The course begins with identifying college, amateur, and professional sports and the differences between each of the levels. This course serves as an introduction into the actual management and marketing of these levels of sports. The course includes management basics, sports management, entertainment management, management functions, decision-making, managing operations, and human resources. Throughout the course students will utilize software to create reports, flyers, brands, demonstration, advertisements, and a website.

### **WALL STREET**

Grades: 10-12

Credits: 5

Prerequisites: None

The goal of the Wall Street course is to educate and extend student knowledge of personal financial responsibility and the practice of sound investing. The course focuses on advanced concepts of financial planning and money management, which are the principles of good economic health and decision making. The course will require that students explore topics of financial planning, banking, investments, and business ownership will empower them to make good decisions and assume personal responsibility for their economic well-being. Personal financial planning and money management are important components. Through a comprehensive exploration of banking,

investments, and personal finance, students will understand how to solve financial problems and to maintain financial stability.

# *Science*

## **BIOLOGY**

Grades: 9

Credits: 6

Prerequisite: None

This is an introductory, laboratory-based course designed to study living organisms and their physical environment. Students should apply scientific methods of inquiry and research in examination of the following topics: chemical basis of life; cell structure, function, and reproduction; energy; molecular basis of genetics; natural selection and diversity; and ecology. Summer homework is also required. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence.

## **BIOLOGY HONORS**

Grades: 9

Credits: 6

Prerequisite: Teacher recommendation

For students desiring a greater depth of knowledge of biology, this rigorous laboratory course stresses in-depth comprehension of important concepts in cellular biology and biochemistry, genetics, ecology and evolution. It is especially recommended as the first year of a four-year honors sequence in science. A strong math background is preferred. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence.

## **AP BIOLOGY**

Grades: 11, 12

Credits: 6

Prerequisite: Successful completion of Biology Honors and Chemistry (Honors) and department recommendation

This course is designed to be the equivalent of a college biology course that is driven by a strong laboratory program and higher levels of biological concepts and models. The Advanced Placement Program of the College Board is designed to prepare students for the AP exam and advanced placement in college above the introductory level courses. It aims to provide students with the conceptual framework, factual knowledge and analytical skills necessary to deal critically with the rapidly changing science of biology. Enrolled students are required to complete an assignment during the summer preceding the start of this course. All students enrolled in this class are expected to prepare for and take the Advanced Placement exam in May.



## **CHEMISTRY**

Grades: 10

Credits: 6

Prerequisite: Successful completion of previous science course

This course deals with major concepts and theories of chemistry. Students develop an understanding of matter in terms of composition and changes in composition, and become able to solve scientific problems logically, use and write chemical formulae, write and balance chemical equations, and use metric measurement. Summer work is required for this course. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence.

## **CHEMISTRY HONORS**

Grades: 10

Credits: 6

Prerequisite: Successful completion of previous science course and teacher recommendation

Lab work is emphasized in this course. Unifying principles are developed by means of observation and experimentation with the development of explanatory models. The first semester presents an overview of the properties of matter and chemical reactions. With this background, students are introduced to more detailed study of energy effects of chemical reactions; rates of chemical reactions; and various types of equilibrium conditions in chemical reactions, including acid-base, precipitation, and oxidation-reduction. Summer work is required for this course. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence.

## **AP CHEMISTRY**

Grades: 11, 12

Credits: 6

Prerequisite: Successful Chemistry (Honors), currently enrolled in Pre-Calculus, Department Recommendation

This course will allow future science majors the opportunity to be exposed to a college level chemistry course as well as preparation for the Advanced Placement Chemistry test. It is designed to be the equivalent of the general chemistry course usually taken during the first college year. Students should attain a depth of understanding of fundamentals and a reasonable competence in dealing with chemical problems. This course relies heavily on the student's ability to work with and comprehend difficult mathematical concepts. The course should contribute to the development of the students' abilities to think clearly and to express their ideas, orally and in writing, with clarity and logic. Summer work is required for this course. All students enrolled in this class are expected to prepare for and take the Advanced Placement Statistics exam in May.

## PHYSICS

Grade: 11, 12

Credits: 6

Prerequisite: Must be enrolled in Algebra 2 or a higher-level Mathematics class.

The physics course is specifically structured to introduce current developments, concepts, and learning opportunities to students in this area of science, as created by the rapidly developing technology of research. Students will obtain a knowledge and understanding of the following concepts: Mechanics of linear and angular motion in one and two dimensions; Universal gravitation and motions of the heavens; Work, energy and simple machines; Waves and energy transfer of sound and light; Electromagnetism; Nuclear physics. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence.

## PHYSICS HONORS

Grades: 11, 12

Credits: 6

Prerequisite: Successful completion of Chemistry Honors and teacher recommendation

The Physics Honors course of studies approaches the study of physics as an experimental science. Students will gain mathematical knowledge and understanding of the following units: Mechanics of linear and angular motion in one and two dimensions; Universal gravitation and motions of the heavens; Work, energy and simple machines; Waves and energy transfer of sound and light; Electromagnetism; Nuclear physics. Summer work is required for this course. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence.

## AP PHYSICS I

Grade: 10-12

Credits: 6

Prerequisite: Math placement exam and department recommendation

The AP Physics course approaches the study of physics as an experimental science but with a heavy emphasis on mathematical theory. It provides students the opportunity to be exposed to a college level physics course. Students will gain an in-depth mathematical knowledge and understanding of the following areas: Kinematics and Dynamics; Gravitation and Work & Energy; Linear and Rotational Energy; Elasticity and Fracture; Fluids and Vibrations & Waves; Sound; Temperature, Kinetic Theory and Thermodynamics; Electricity and Magnetism; Light; Quantum Theory and Quantum Mechanics; Nuclear Physics. A strong mathematical background is required. Enrolled students are required to complete an assignment during the summer preceding the start of this course. All students enrolled in this class are expected to prepare for and take the Advanced Placement Physics exam in May.

Additionally, Students in AP Physics will be offered the opportunity to sit for the **AP Physics C: Mechanics** exam. This course is equivalent to a one-semester, calculus-based, college-level physics course. It is especially appropriate for students planning to specialize or major in physical science or

engineering. The course explores topics such as kinematics; Newton's laws of motion; work, energy and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. Introductory differential and integral calculus is used throughout the course.

### **ENVIRONMENTAL SCIENCE**

Grades: 11, 12

Credits: 6

Prerequisites: Biology and Chemistry

Environmental Science is a multi-disciplinary course including such areas as Biological Sciences, Physical Sciences, and Social Sciences. Upon completion of the course students will be able to understand the difficult decisions facing their generation and the trade-offs necessary to live in an environmentally sustainable society. Sustainability is the overarching theme throughout the course as students explore the basic concepts of ecology, resource management, the importance of biodiversity, and the impacts of human societies on the environment. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence.

### **AP ENVIRONMENTAL SCIENCE**

Grade: 12

Credits: 6

Prerequisites: Department recommendation

This course is designed for students who have an interest in environmental issues and solutions. The course offers the opportunity for students to gain an understanding of current local and global environmental issues and to debate proposed solutions. An understanding of the interrelationships between all elements of ecosystems will be gained.

Students work independently and in groups to learn about relevant components of environmental issues and develop proposed plans of action. The students develop a personal agenda by which they "think globally, act locally." Students who enroll in AP Environmental Science will be expected to complete additional assignments that will prepare them for the AP exam in May. All students enrolled in this class are expected to prepare for and take the Advanced Placement Environmental Science exam in May.

## *Science Electives*

### **ANATOMY AND PHYSIOLOGY**

Grades: 11, 12

Credits: 5

Prerequisites: Biology and Chemistry

Human Anatomy and Physiology will be a survey of human systems, their functions, and mechanisms of action. Emphasis will be placed on integration of systems, homeostatic mechanisms, and failures of those mechanisms that lead to disease. Laboratory activities will be an integral part of the course,

and will include dissections, mechanical, and chemical activities, as well as cardiovascular and pulmonary activities related to exercise and fitness. Topics covered will include a review of cell biology, the integument, muscle anatomy and physiology, the nervous system, the senses, the cardiovascular system, the excretory system, hormonal control physiology, the reproductive systems, and human development. (NOTE: Students who may have struggled in Biology and/or Chemistry will have difficulty in this course.)

### **LAUNCHING INTO AVIATION**

Grade: 11-12

Credits 2.5

Prerequisites: None

In this course students will learn about the engineering process, problem-solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible. They will look at the problem-solving processes and innovative leaps that took space exploration from the unimaginable to the common place in a single generation. Students will also gain historical perspective, starting from the earliest flying machines and leading to the wide variety of modern flying machines and the integral role they play in making today's world work.

### **EXPLORING AVIATION AND AEROSPACE**

Grade: 11-12

Credits 2.5

Prerequisites: Launching into Aviation

This aerospace and aviation course provides an understanding for both manned and unmanned flight. It is designed to give students a clear understanding of career opportunities in aviation and aerospace and the critical issues affecting the aviation system. Students will also begin to drill down into the various sectors of aviation and the elements that make up the aviation and aerospace ecosystem. They will discover how advances in aviation created a need for regulation and will learn about the promulgation of civil aviation oversight. Students will explore modern innovations and develop their own innovative ideas to address real-world challenges facing the aviation industry. They will be exposed to a variety of career options in aviation and aerospace and take an in-depth look at the opportunities available.

### **ETHICAL ISSUES IN BIO-CHEMISTRY**

Grades: 11, 12

Credits: 5

Prerequisites: Biology and Chemistry and department recommendation

Bioethics will explore issues in the life sciences including the fields of medical treatment and research. Students will explore these conflicts and engage in scientific exploration and debate regarding the impact science has on medical research and funding. The topics covered are controversial and a mature student will be the best suited for this course.

## **FORENSICS**

Grades 11, 12

Credits: 5

Prerequisite: Biology and Chemistry

Forensic Science is the study of criminalistics - a division of science that involves the application of the principles of chemistry, biology, and physics to the analysis of crime scenes. This course is an introduction to the principles of criminal investigation with an observational and occasional experiential emphasis. Areas covered include: Crime scene analysis and the collection of physical evidence; Physical properties of glass and soil; Organic and inorganic chemical analysis; Microscopy: hairs, fibers, paint, etc.; Drugs and toxicology; Arson; Serology, DNA; Fingerprints; Toolmarks, firearms; Document and voice analysis; The utilization of computers and computer technology.

# ***Social Studies***

## **WORLD HISTORY**

Grade: 9

Credits: 5

Prerequisite: None

This course traces the rise of the modern world, starting with the end of the Middle Ages, the beginning of the Renaissance, and continuing to the present day. Students will be introduced to these time periods within the context of the larger social structures, political movements, and economic processes that have changed the world. Students will apply these broad themes in evaluating current events. Students will develop an understanding of the influences upon the world, the cultures of other nations, and the people who have helped to shape those nations in the past in order to be an effective influence for good in our globalized society. This course also seeks to prepare students with the foundational skills necessary to be a historian, answering the “what” and “why” questions of historical events as well as the “how to” of historical craft through research, primary source readings, and historical writing.

## **WORLD HISTORY HONORS**

Grade: 9

Credits: 5

Prerequisite: Teacher recommendation

This is an accelerated course designed for students who are motivated to explore historical events and concepts at an accelerated pace. World History traces the rise of the modern world, starting with the end of the Middle Ages, the beginning of the Renaissance, and continuing to the present day. Students will be introduced to these time periods within the context of the larger social structures, political movements, and economic processes that have changed the world. Students will apply these broad themes in evaluating current events. Students will develop an understanding of the influences upon the world, the cultures of other nations, and the people who have helped to shape those nations in the past in order to be an effective influence for good in our globalized society. As an honors course, key topics will be analyzed in greater depth through research, primary source readings, and historical writing in order to answer the “what” and “why” questions of historical events as well as the “how to” of historical craft.

## **UNITED STATES HISTORY I**

Grade: 10

Credits: 5

Prerequisites: World History

This course is a chronological study of the American experience from the Colonial Era through the Age of Industrialization and the emergence of the Progressive era. Students will have an opportunity to develop an in-depth understanding of the evolution of the United States through an examination and analysis of primary and secondary sources. Students will be expected to create original

arguments supported by evidence and to utilize historical thinking skills in writing and discussions. In addition to the historical content, the course will also explore the tenants of democracy, civic responsibilities, and the structure and role of the American government and its continued influence on nations and current global challenges.

### **UNITED STATES HISTORY I HONORS**

Grade: 10

Credits: 5

Prerequisites: Successful completion of US I and teacher recommendation

This is an accelerated course designed for students who are motivated to explore historical events and concepts an accelerated pace. This course is a chronological study of the American experience from the Colonial Era through the Age of Industrialization and the emergence of the Progressive era. Students will have an opportunity to develop an in-depth understanding of the evolution of the United States through an examination and analysis of primary and secondary sources. Students will be expected to create original arguments supported by evidence and to utilize historical thinking skills in writing and discussions. In addition to the historical content, the course will also explore the tenants of democracy, civic responsibilities, and the structure and role of the American government and its continued influence on nations and current global challenges.

### **UNITED STATES HISTORY II**

Grade: 11

Credits: 5

Prerequisites: United States History I

US History II represents the culmination of a student's mandatory three-year social studies instruction at PTHS. While US History I established the US as a burgeoning economic power, US History II witnesses America convert that economic strength into military power bringing it to the present day where the US is the world's sole remaining superpower. Students will examine primary and secondary sources, create original arguments supported by evidence, and utilize historical thinking skills and they examine American history.

### **US HISTORY II HONORS/AP US HISTORY**

Grade: 11, 12

Credits: 5

Prerequisite: Successful completion of US History I and teacher recommendation

*New in 2021, students choosing the Honors level of US History II will be combined with AP US History. Students can choose whether they wish to engage in the AP Exam and doing so will impact the weighting on their transcript to reflect AP weighting. If they choose not to participate in the exam, Honors weighting will apply.*

This U.S. History course focuses on the development of historical thinking skills (chronological reasoning, comparing and contextualizing, crafting historical arguments using historical evidence, and interpreting and synthesizing historical narrative) and the development of student's abilities to

think conceptually about U.S. history from approximately 1491 to the present. Seven themes of equal importance — American and National Identity; Migration and Settlement; Politics and Power; Work, Exchange, and Technology; America in the World; Geography and the Environment; and Culture and Society — provide areas of historical inquiry for investigation throughout the course. These require students to reason historically about continuity and change over time and make comparisons among various historical developments in different times and places. The course also allows teachers flexibility across nine different periods of U.S. history to teach topics of their choice in depth.

Students will be expected to be motivated to read for understanding on their own, to recall historical facts and themes and apply them as part of their historical analysis over time. Those choosing to take the AP exam will need to dedicate time outside of the classroom in preparation for that exam. In order to earn AP credit, students must take the National College Board AP Examination in May. **Summer work is required for this course.**

### *Social Studies Electives*

#### **AP GOVERNMENT AND POLITICS**

Grade: 11, 12

Credits: 5

Prerequisite: Successful completion of US II and/or teacher recommendation

This course is an in depth study of the evolution and current configuration of the American Federal Government. A portion of the course will also be devoted to the relationship of the federal government to state and local governments and to current problems facing the American political decision making process. The second phase of the course will focus on preparing students to complete the AP U.S. Government Examination. Students selecting this course will focus on enhancing the social science skills necessary to successfully complete this vigorous examination. Course content follows The College Board's Advanced Placement curriculum in AP Government and Politics. Completion of the course prepares the student to take the Advanced Placement Test. Summer work is required for this course.

Due to the pacing of the course, students will be expected to be motivated to read for understanding on their own, to recall facts and themes and apply them as part of their analysis of American government systems. All students are expected to take the National College Board AP Examination in May. Significant independent preparation is needed for success on the AP Exam and in the course. **Summer work is required for this course.**



## AP PSYCHOLOGY

Grades: 11, 12

Credits: 5

Prerequisite: Department recommendation; Intro to Psychology is strongly encouraged.

AP Psychology is an accelerated and academically rigorous course for students who are interested in learning about human behavior from a scientific perspective. The class follows a curriculum designed to prepare students for the AP Psychology Examination. This course introduces students to the systematic and scientific study of human behavior and mental processes. While considering the psychologists and studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with such topics as the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatment of abnormal behavior, and social psychology. Throughout the course, students employ psychological research methods, including ethical considerations, as they use the scientific method, analyze bias, evaluate claims and evidence, and effectively communicate ideas.

Significant independent preparation is needed for success on the AP Exam and in the course. All students are expected to take the National College Board AP Examination in May. **Summer work is required for this course.**

## AP WORLD HISTORY: Modern

Grades: 11, 12

Credits: 5

Prerequisite: Successful completion of US II and/or teacher recommendation

AP World History: Modern is an introductory college-level modern world history course. Students cultivate their understanding of world history from c. 1200 CE to the present through analyzing historical sources and learning to make connections and craft historical arguments as they explore concepts like humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. The course has students investigate the content of world history for significant events, individuals, developments, and processes in six historical periods, and develop and use the same thinking skills and methods (analyzing primary and secondary sources, making historical comparisons, chronological reasoning, and argumentation) employed by historians when they study the past. The course also provides five themes (interaction between humans and the environment; development and interaction of cultures; state building, expansion, and conflict; creation, expansion, and interaction of economic systems; and development and transformation of social structures) that students explore throughout the course in order to make connections among historical developments in different times and places encompassing the five major geographical regions of the globe: Africa, the Americas, Asia, Europe, and Oceania.

Due to the pacing of the course, students will be expected to be motivated to read for understanding on their own, to recall historical facts and themes and apply them as part of their historical analysis over time. All students are expected to take the National College Board AP Examination in May.

Significant independent preparation is needed for success on the AP Exam and in the course. **Summer work is required for this course.**

### **CRIMINAL LAW**

Grades: 11, 12

Credits: 2.50

Prerequisites: None

Criminal Law is designed to help students understand our nation's judicial system. The course will focus on current issues and the practical application of law in our daily lives, as well as each student's responsibilities under the law. Students will develop their skills at reading and analyzing documents, learn the fundamental principles of criminal law and some aspects of procedure, and identify and discuss controversial issues. Students will explore the historical and significant impact the judicial system has on society. During this semester-long course, students will engage in mock trials, debates, and other critical analysis and participation in the legal process.

### **SOCIAL JUSTICE & POLITICAL ACTIVISM**

Grades: 11, 12

Credits: 2.50

Prerequisites: None

Social Justice & Political Activism is a course designed to explore current issues within the US. This course will focus on the issues of social justice within the US and the issues related to current issues such as LGBTQT, women's issues, race, poverty in America, crime in America, hate crimes, and other topics of high interest to the students in the class. The course will be primarily inquiry-based and encourages students to explore topics of interest in greater depth.

### **CURRENT TRENDS AND CIVIC ENGAGEMENT**

Grades 11-12

Credits 2.5

Prerequisites: None

This course is designed for those students who are interested in what is happening in the United States and around the world while also focusing on the ways in which we can participate and make a difference in today's society. Using an inquiry model, students will explore topics of high interest and relevance to them. Using current events, students will explore how local, state and national governments work and how they impact the events and issues defining our lives from a broad range of topics - whether it is climate and the environment, economics and trade, fairness and justice, etc. But students will also explore how to get involved to bring about change.

## **HOLOCAUST AND GENOCIDE**

Grades: 11, 12

Credits: 2.5

Prerequisites: None

Students in this course examine the nature of human behavior, views of prejudice, and genocide. By studying events such as the Nazi holocaust, Cambodian genocide, Armenian massacre, Bosnian crisis, and devastation of the American Indian, students come to understand causes of such catastrophes, their impact on history, and how they might be avoided. The course stresses student involvement and interaction.

## **INTRODUCTION TO PSYCHOLOGY**

Grades: 11, 12

Credits: 5.0

Prerequisites: None

Psychology is an introductory course to the field of Psychology aimed at having students understand why people act in the way they do. It asks students to step outside themselves in order to objectively examine the physical, emotional and psychological causation of the behaviors they observe in both themselves and others. It also seeks to introduce students to the methodologies of the social sciences and differentiate them from the disciplines in both the pure sciences and the humanities. The first part of the course constructs a theoretical framework used in the second half to show applications to real-life cases. The hope is that each student will be encouraged to both 'know thyself' and have a better grasp of the workings of the world around them.

# ***Technology & Computer Science***

## **ENGINEERING DESIGN & DEVELOPMENT**

Grades 9-12

Credits: 5

Prerequisites: None

The goal of this course is to give students the skills they need to succeed in STEM fields. These skills include, but are not limited to: utilizing and applying the engineering problem solving model, developing an understanding of weights and measurements, acquire skills in orthographic and isometric drawing, developing an understanding of aerodynamics, electrical circuits, and structural engineering.

Class periods will be spent in group work on projects, involving each step of the scientific and engineering method. This class will allow students to experience school and the classroom in ways which promote growth in common elements found in science and engineering.

## **GAME DESIGN**

Grades: 9-12

Credits: 5

Prerequisites: none

This course serves as an excellent introduction to computer programming and offers an easily accessible, creative environment in which to learn fundamental programming concepts. Students are provided with the opportunity to think logically, abstractly, and creatively in order to develop their programming skills through game design. This course is an excellent way to introduce students to the object oriented programming concepts that are featured so prominently in the Advanced Placement Computer Science course that follows. Java is also a professional programming language capable of running on virtually any type of computer device. While not purely a games oriented class, students will have the opportunity to write their own games and computer applications. As this course provides students with the background knowledge needed to be successful in the AP Computer Science course.

## **AP COMPUTER SCIENCE PRINCIPLES**

Grades: 10-12

Credits: 5

Prerequisites: none

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. The course is particularly useful for those students who are considering a major

or minor in a Computer Science, STEM or Engineering field. All students enrolled in this class are expected to prepare for and take the Advanced Placement Statistics exam in May.

### **COMPUTER AIDED DESIGN**

Grades: 9-12

Credits: 5

Prerequisites: none

This course will teach students the basics of architectural design using the same professional software used by Architects and Media Professionals. This is a survey course that will cover a broad range of topics. Basic Architectural and engineering concepts will be addressed along with many of the 3D modeling, rendering and compositing techniques used by game developers, visual effects artists, and other creative professionals engaged in media design. This course is best for students who are considering a career in Architecture or 3D Graphics and Media Design.

### **DIGITAL MEDIA DESIGN**

Grades: 9-12

Credits: 2.5

Prerequisites: none

(This course is linked with Media Production I)

The Digital Media Design course focuses on the fundamentals of digital media communication and production as well as the important role that digital communication plays in our technologically driven society. Through hands-on learning experiences, students will learn how to think creatively, as well as manipulate and utilize various digital mediums to design and communicate while developing skills in the areas of photo editing and manipulation, audio mixing and editing, video creation and editing, and animation design. A focus will be on the integration of design thinking principles, drawing upon students' logic, imagination, intuition, and creativity to design and create digital media products that meet the needs and wants of the consumer or client.

### **MEDIA PRODUCTION I**

Grades: 9-12

Credits: 2.5

Prerequisites: Digital Media Design

(This course is linked with Digital Media Design)

This course is an exploration into the art and business of video production. Students participate in hands-on projects using state-of-the-art cameras, lighting, and editing equipment. Activities include idea generation, script writing, storyboard development, video projects, directing, lighting, and set development. Students participate in various contests, shows, and workshops in house and on location. This course has a fieldwork component, which may be completed by the students outside of the scheduled class timeslot. Students are responsible for completing all of the fieldwork in order to successfully meet course requirements. Students gain a working knowledge in video-editing software, which may benefit them in completing alternate assessments in the future.

## **MEDIA PRODUCTION II**

Grades: 10-12

Credits: 5

Prerequisite: Digital Media Design or Media Production I

The Media Technology course will concentrate on the three phases of the production process, the use of equipment (sound, lighting, video, editing), and processes utilized in the digital video industry. The emphasis of this course will be on studio / field work. Students will apply their experiences to produce music videos, sports highlights films, PSAs, commercials, contest, and various school and community based projects

# *Visual and Performing Arts*

## **DIGITAL ARTS I**

Grades: 9-12

Credits: 5

Prerequisites: None

This Digital Arts course develops principles of graphic design through digital applications. Students will engage in the process of creative expression and critical response through demonstration, project-work, and critique. Students will use Adobe Photoshop and/or Illustrator, WYSIWYG website building software, and any current software applications to create and share their projects. Topics include, lettering, branding, concept design, website building, elements of art and principles of design along with the basics of Photoshop and/or Illustrator.

## **DIGITAL ARTS II**

Grades: 10-12

Credits: 5

Prerequisites: Digital Arts I

Digital Arts II will build upon the skills and knowledge taught in Digital Arts I but will require students to be more independent workers, exploring various topics that will require increased creativity and problem solving. Students will explore more complex elements of digital design including animation. Students will develop the aesthetic and practical principles of animated digital entertainment. Students will engage in the process of creative expression and critical response through demonstration project work and critique. Students will use Adobe Photoshop, Adobe Illustrator, iMovie, and current video software applications to create digitally animated projects. Topics discussed in class include storyboarding, script development, shot composition, concept design, techniques for digital animation, and methods for sharing their work. The final project can include the creation of an animated movie trailer, short film, or other independent style animated works. Students will have the option to work more independently on projects of interest in the field of digital arts.

## **DIGITAL ARTS III**

Grades: 11-12

Credits: 5

Prerequisites: Digital Arts II

The 21st century has seen an explosion of new technologies and new forms of social interaction that change the way we view the world and communicate. Visual images permeate the social landscape and are a predominant means to convey information. Most necessary to meet the demands of this century is the ability to observe, envision, innovate, and reflect. The arts develop these skills through the creative process, promoting critical thinking, problem solving, and the ability to persist in refining one's craft. The goal of this course is to expose students to the fundamentals of visual art through digital illustration, thereby instilling the skills and habits required for this digital age and beyond.

The course begins with a basic foundation of art and illustration, history, criticism and aesthetics, and continues throughout the course with character design, visual storytelling, and graphic design using digital applications. Students will learn computer illustration techniques, image manipulation, photography, publishing and the elements & principles of design.

The course will continually provide students with the opportunity to learn new information and apply their knowledge to small and large project-based assignments. Most assignments will be completed via computers and various types of software applications, such as Adobe Photoshop and Illustrator. This course requires students to solve problems creatively by using the technological tools that are at their disposal.

### **VISUAL ARTS I**

Grades: 9-12

Credits: 5

Prerequisite: None

Visual Arts I is a full year, introductory course designed to provide an array of creative outlets for expression. Students will be exposed to a full spectrum of the elements of art including this history of certain techniques and materials, the foundations of drawing, painting, and ceramics. Students will be introduced to the basics of drawing and painting by examining line, shape, form, space, color, and texture and will further utilize color theory, and the art of sculpting. This course is an excellent choice for those students interested in a course providing the basics for a brief time or for those seeking to explore art as a possible career.

### **VISUAL ARTS II**

Grades: 10-12

Credits: 5

Prerequisites: Visual Arts I

Visual Arts II will expand upon the concepts and knowledge introduced to students in Visual Arts I and provide students with an opportunity to further explore areas of interest, whether in drawing, painting, or sculpture. This course will emphasize greater creativity, problem solving, art history, and critique on part of the student.

### **VISUAL ARTS III**

Grades: 11-12

Credits: 5

Prerequisites: Visual Arts II

Visual Arts III is a continuation of the Visual Arts program. This course is designed for the more serious art student seeking to explore more complex techniques, principles of design, and creativity, while at the same time reinforcing the skills, knowledge, and techniques taught in Visual Arts I & II. Students will be required to work more independently on projects of his/her own preference. Students will compile a portfolio of demonstrated progress over time that represents their body of work.



## **AP STUDIO ART**

Grade: 11-12

Credits: 5

Prerequisite: Visual Art I; plus one full year of art/digital art courses; plus recommendation by teacher.

Advanced Placement Studio Art is designed for highly talented, self-motivated, create art students who want to pursue art in a post-secondary setting or as a career choice. This course will provide an intense studio work experience for the serious art student. Instruction will be individualized and provide a forum for long-term, large scale, self-motivated projects. Each student will produce a portfolio showcasing that individual's talents in accordance with the Advanced Placement Programs standards and criteria. At the end of the course, the portfolio of student work will be reviewed by the College Board, which provides the only national standard for performance in the visual arts that allows students to earn college credit and/or advanced placement while still in high school.

## **CONCERT BAND – INSTRUMENTAL**

Grades: 9-12

Credits: 5

Prerequisite: None

Band is an instrumental group of full concert proportion and instrumentation. Students who enroll in band will develop proficiency and mastery as reflected in their ability to perform, with appropriate musicality, excerpts from concert music studied during the school year. They will also demonstrate growth in performance skills related to articulation, intonation, breath control, posture, and playing position. In addition, they will demonstrate musical expression through dynamics, tempo, markings, balance, blend, and phrasing. Students are encouraged to participate in Marching Band and expected to perform at the Winter and Spring concerts.

## **HONORS CONCERT BAND**

Grades: 9-12

Credits: 5

Prerequisite: Audition

Honors concert band is an audition-only section of Concert Band (see description). In addition to the high-level expectations of concert band, honors students are expected to take private lessons outside of school and prepare the all-state solo on their instrument. They will also have rhythm exams once every two weeks.

## **PIANO I**

Grades: 9-12

Credits: 2.5

Prerequisite: None

This course is intended for students who wish to learn the piano or improve their piano skills. Students will learn basic standard musical notation, finger technique, chords, scales, composition,

and study repertoire of all levels. Many genres will be explored in this class- everything from pop to classical- with a basis in technical proficiency. Students of all ability and experience levels are welcome to join.

## **PIANO II**

Grades: 10-12

Credits: 2.5

Prerequisite: Piano I

This course is a continuation of the Piano I course. This course is for students who wish to continue the development of their piano playing and music reading skills. Students will learn more advanced musical notation, finger techniques, chords, scales, composition, and study repertoire of all levels. A variety of genres will be explored in this class.

## **MUSIC TECHNOLOGY**

Grades: 9-12

Credits: 2.5

Prerequisite: None

Students will discover and explore concepts used in music sequencing, notation and recording. Students will create music using sequencing/editing software in conjunction with musical instruments. Students will be introduced to how computers and music software work together for recording and composing live and synthesized sounds. By focusing on a variety of projects and experimenting with this technology, students will be able to create music, gain knowledge in keyboard and computer skills, understand the importance of reading music and gain a respect for music's place in our lives.

## **DANCE**

Grades: 9-12

Credits: 2.5

Prerequisite: None

This course gives the student a solid foundation in the elements of dance, such as spatial awareness, posture/alignment, body patterning, strength, flexibility, balance, and coordination. Students will also learn basic dance vocabulary, which will allow them to communicate ideas with choreographers and other dancers, both during this class and in the outside world. Once the basics are established and/or reinforced, the dance students will hone their dance skills, focusing on improvisation, codified movement, choreographic structures, choreographic devices, technique, expressive musical phrasing, and use of technology.

## **THEATRE ARTS**

Grades: 9-12

Credits: 2.5

Prerequisite: None

This course provides some insight into the history of Western theatre and basic knowledge of everything that goes into the production of live theatrical performances. Students will be challenged to design all elements of a musical, including lighting, sound, costuming, makeup, and casting. Students will also spend time honing their acting skills in the performance of monologues, improvised scenes, and a full one act play.

## **CONCERT CHOIR**

Grades: 9-12

Credits: 5

Prerequisites: None

This non-auditioned class is open to all students and grade levels. This class gives students the opportunity and experience of performing a multitude of genres with a vocal ensemble. There will be a focus on the basics of vocal technique, beginning sight-reading skills, music literacy, reading a vocal score, performance etiquette, and musicianship. This course explores choral music from a variety of cultures, genres, and time periods.

## **MUSIC THEORY**

Grades: 9-12

Credits: 5

Prerequisite: None

This course is intended for students who seek deep understanding of music. Students will learn notation, scales, tonal harmony, rhythm and form. Students will study the music of Bach, Mozart, Beethoven and others (including the Beatles). This course should allow students to understand, analyze and listen to all genres of music in an informed manner.

## **AP MUSIC THEORY**

Grades: 11-12

Credit: 5

Prerequisite: Teacher Recommendation

Students enrolled in this course will learn the materials of Music Theory as set forth in the guides published by the Educational Testing Service, in preparation for taking the AP exam in Music Theory. Students will study harmony, counterpoint, ear training, melodic and harmonic dictation, voice leading, non-harmonic tones, modulation, and other aspects of how music is created. Through a combination of written work, listening exercises, and sight singing, they will gain proficiencies in those areas crucial to success on the AP exam. Students are expected to take the National College Board Advanced Placement Exam in May.

# *World Languages*

## **CONVERSATIONAL SPANISH AND CULTURE**

Grade: 9-12

Credits: 5

Prerequisites: Teacher recommendation only

This course focuses on the essential language acquisition techniques needed for communication and comprehension of the language used in Spanish daily life. Students will develop the basic skills necessary for speaking, listening, reading and writing. Cultural enrichment will also be infused into the course, including, but not limited to, geography, customs and daily living.

## **SPANISH I**

Grades: 9-12

Credits: 5

Prerequisites: Teacher recommendation only.

This study of Spanish offers beginning language learners with basic, foundational knowledge requiring the sequential development of the four skills necessary to language learning, i.e. listening, speaking, reading, and writing. Spanish I provides the foundation of these communication skills with a particular emphasis on listening and reading, since research reveals that actual language acquisition happens when tapping into these two skills. Spanish I addresses the five crucial areas of communication, cultures, connections, comparisons, and communities. Students will engage in a variety of learning strategies and interactions with multiple resources of basic language acquisition. These elements are continuously integrated, reviewed, refined, and explained. Cross-cultural understanding is a major objective and an essential ingredient to basic language competency.

**Based on enrollment, this course may be combined with another Academic level. This placement is appropriate for students NEW to language learning or recommended by the 8th grade teacher.**

## **SPANISH II**

Grades: 9-12

Credits: 5

Prerequisites: **Spanish 8** or Spanish 1

All students entering PTHS with prior Spanish language instruction will begin their course of study at this level. In Spanish II, students continue to engage in meaningful, communicative exchanges begun with Spanish 8 or Spanish I. Students will demonstrate the ability to express details of his/her everyday life and of past experiences; engage in original and spontaneous conversations in the target language; organize thoughts into coherent oral speech and writing; communicate and interact in a limited range of task-oriented and social situations; comprehend a sustained conversation on a number of topics; identify common and distinct features between the target and native languages; read with increased understanding limited stories and paragraphs that have been glossed for the reader; develop a cultural sensitivity to appropriate responses and behaviors in

limited social settings and basic situations with the ultimate goal of initiating and sustaining conversations of longer duration and with increasing linguistic accuracy. **This is the appropriate placement for students who have taken the same language in middle school. Based on enrollment, this course may be combined with an Honors level.**

### **SPANISH II HONORS**

Grades: 10-12

Credits: 5

Prerequisites: Spanish I and teacher recommendation

The course of study for Spanish II Honors resembles the Spanish II curriculum, however in Spanish II Honors, students will be expected to apply more advanced uses of the language in a variety of settings, as well as to delve into more challenging reading of authentic materials requiring advanced critical thinking skills. They are expected to produce projects that reflect proficiency to mastery in these skills areas. **This is the appropriate placement for students who have taken the same language in middle school. Based on enrollment, this course may be combined with an Academic level.**

### **SPANISH III**

Grades: 10-12

Credits: 5

Prerequisite: Successful completion of Spanish II and/or teacher recommendation based on the student's knowledge and experience with the language.

In this level of Spanish language learning, students will continue to refine their language acquisition by reading selections of greater length and depth, which are discussed and expanded with conversations and compositions. Self-expression is encouraged in a variety of modalities. The student will demonstrate: progress in the ability to use and understand more sophisticated grammatical structures; increased active and passive vocabulary acquisition; adeptness at expressing ideas and experiences in a variety of time frames; understanding of topics of contemporary and historical significance that are explored throughout the course; greater facility in engaging in original and spontaneous conversation in the language studied; an identification of significant similarities and differences between the target and native languages; an increased ability to organize thoughts into coherent oral speech and writing; interaction with appropriate responses in limited social settings and basic situations; an ability to express opinions, likes, dislikes and to argue persuasively. **Based on enrollment, this course may be combined with an Honors level.**

### **SPANISH III HONORS**

Grades: 10-12

Credits: 5

Prerequisites: Successful completion of Spanish II and/or teacher recommendation based on the student's knowledge and experience with the language.

The course of study for Spanish III Honors resembles the Spanish III curriculum, however in Spanish III Honors, students will be expected to apply more advanced uses of the language in a variety of

settings, as well as to delve into more challenging reading of authentic materials requiring advanced critical thinking skills. They are expected to produce projects that reflect proficiency to mastery in these skills areas. **Based on enrollment, this course may be combined with an Academic level.**

### SPANISH IV

Grades: 11-12

Credits: 5

Prerequisites: Successful completion of Spanish III and teacher recommendation

Spanish IV will require students to use the target language 100% of the time. The course, taught entirely in Spanish, is designed for students who wish to continue to improve their reading, writing, speaking and listening skills in Spanish. Course work will focus on meaningful communicative contexts that parallel cultural aspects of the Spanish-speaking world. The use of cultural videos, music and Internet sources will be used to enhance the cultural component of the course. A thematic approach will be employed in order to increase student's ability to converse in real-life situations in the target language. Reading selections from literary texts and authentic print materials will be chosen for their cultural significance and student interest. Oral and written proficiency will be stressed through a review of the structure and syntax of the Spanish language. **Students at this level are expected to pursue the New Jersey Seal of Biliteracy, which recognizes students as biliterate who can demonstrate language acquisition at the ACTFL Intermediate-Mid level. Based on enrollment, this course may be combined with an Honors level.**

### SPANISH IV HONORS

Grades: 11-12

Credits: 5

Prerequisites: Successful completion of Spanish III and teacher recommendation

Spanish IV Honors resembles the Spanish IV curriculum, however in Spanish IV Honors, will require students to use the target language 100% of the time. The course, taught entirely in Spanish, will require that students will be expected to apply more advanced uses of the language in a variety of settings, as well as to delve into more challenging reading of authentic materials requiring advanced critical thinking skills. They are expected to produce projects that reflect proficiency to mastery in these skills areas. **Students at this level are expected to pursue the New Jersey Seal of Biliteracy, which recognizes students as biliterate who can demonstrate language acquisition at the ACTFL Intermediate-Mid level. Based on enrollment, this course may be combined with an Academic level.**

### SPANISH V HONORS

Grade: 12

Credits: 5

Prerequisites: Spanish IV

The course of study for Spanish V expands upon the thematic units of the Spanish IV curriculum, however in Spanish V, students will be expected to apply more advanced uses of the language in a variety of settings, as well as to delve into more challenging reading of authentic materials

requiring advanced critical thinking skills. The course will be taught in the target language and students are expected to use the target language exclusively. The focus of Spanish V will be the cultural exploration of many Spanish speaking nations. **Students at this level are expected to pursue the New Jersey Seal of Biliteracy, which recognizes students as biliterate who can demonstrate language acquisition at the ACTFL Intermediate-Mid level. Students may also wish to take the AP Spanish Language and Culture exam.**

### **FRENCH I**

Grades: 9- 12

Credits: 5

Prerequisites: Teacher recommendation

This study of French employs the sequential development of the four skills necessary to language learning, i.e. listening, speaking, reading, and writing. French I provides the foundation of these communication skills with a particular emphasis on listening and reading, since research reveals that actual language acquisition happens when tapping into these two skills. The French I course addresses the five crucial areas of communication, cultures, connections, comparisons, and communities. Students will engage in a variety of learning strategies and interactions with multiple resources of basic language acquisition. These elements are continuously integrated, reviewed, refined, and explained. Cross-cultural understanding is a major objective and an essential ingredient to basic language competency. **Based on enrollment, this course may be combined with an Honors or another level. For combined classes, those students seeking Honors credit will be given additional assignments, assessments, and grading criteria during the class.**

### **FRENCH II**

Grades: 9-12

Credits: 5

Prerequisites: French 8 or French I and/or teacher recommendation based on the student's knowledge and experience with the language.

The student continues to engage in meaningful, communicative exchanges with the ultimate goal of initiating and sustaining conversations of longer duration and with increasing linguistic accuracy. The student will demonstrate the ability to: express details of his/her everyday life and of past experiences; engage in original and spontaneous conversations in the target language; organize thoughts into coherent oral speech and writing; communicate and interact in a limited range of task-oriented and social situations; comprehend a sustained conversation on a number of topics; identify common and distinct features between the target and native languages; read with increased understanding limited stories and paragraphs that have been glossed for the reader; develop a cultural sensitivity to appropriate responses and behaviors in limited social settings and basic situations. **Based on enrollment, this course may be combined with an Honors or another level. For combined classes, those students seeking Honors credit will be given additional assignments, assessments, and grading criteria during the class.**

### FRENCH III

Grades: 10-12

Credits: 5

Prerequisite: Successful completion of French II and teacher recommendation based on the student's knowledge and experience with the language.

In this level, reading selections of greater length and depth are discussed and expanded with conversations and compositions. Self-expression is encouraged in a variety of modalities. The student will demonstrate: Progress in the ability to use and understand more sophisticated grammatical structures; Increased active and passive vocabulary acquisition; Adeptness at expressing ideas and experiences in a variety of time frames; Understanding of topics of contemporary and historical significance that are explored throughout the course; Greater facility in engaging in original and spontaneous conversation in the language studied; An identification of significant similarities and differences between the target and native languages; An increased ability to organize thoughts into coherent oral speech and writing; Interaction with appropriate responses in limited social settings and basic situations; An ability to express opinions, likes, dislikes and to argue persuasively. **Based on enrollment, this course may be combined with an Honors or another level. For combined classes, those students seeking Honors credit will be given additional assignments, assessments, and grading criteria during the class.**

### FRENCH IV

Grades: 11-12

Credits: 5

Prerequisite: Successful completion of French III and teacher recommendation

The French IV course is designed for students who wish to continue to improve their reading, writing, speaking and listening skills in French. Course work will focus on meaningful communicative contexts that parallel cultural aspects of the French-speaking world. The use of cultural videos, music and Internet sources will be used to enhance the cultural component of the course. A thematic approach will be employed in order to increase student's ability to converse in real-life situations in the target language. Reading selections from literary texts and authentic print materials will be chosen for their cultural significance and student interest. Oral and written proficiency will be stressed through a review of the structure and syntax of the French language. **Students at this level are expected to pursue the New Jersey Seal of Biliteracy, which recognizes students as biliterate who can demonstrate language acquisition at the ACTFL Intermediate-Mid level. Based on enrollment, this course may be combined with an Honors or another level. For combined classes, those students seeking Honors credit, will be given additional assignments, assessments, and grading criteria during the class.**



## FRENCH V HONORS

Grade: 12

Credits: 5

Prerequisites: French IV

The course of study for French V expands upon the thematic units of the French IV curriculum, however in French V, students will be expected to apply more advanced uses of the language in a variety of settings, as well as to delve into more challenging reading of authentic materials requiring advanced critical thinking skills. The course will be taught in the target language and students are expected to use the target language exclusively. The focus of French V will be the cultural exploration of many French speaking nations. **Students at this level are expected to pursue the New Jersey Seal of Biliteracy, which recognizes students as biliterate who can demonstrate language acquisition at the ACTFL Intermediate-Mid level. Students may also wish to take the AP French Language and Culture exam.**

## LATIN AMERICAN HISTORY & CULTURE

Grades 11-12

Credits 5.0

Prerequisite: None

This course will be a survey of the major events, issues and themes of Latin American History from pre-Columbian times through the modern era. Tracing the development of political, cultural, social and economic institutions resulting from the interaction of New and Old World cultures, students will reflect upon the diverse responses of peoples in the region to the impact of change. Through the study of the complexities of indigenous cultures, colonialism, nation-building and identity politics, and the impact of modernity and globalization, students learn how larger human processes impact this particular region of the world and how the challenges and achievements of Latin America today are reflected in the region's historical experiences. Students will be asked to analyze a variety of resources and be assessed through written assessments, class discussion, and presentations.

# ***AP CAPSTONE***

## **AP CAPSTONE- AP Seminar**

Grade: 10-11

Credits: 5

Prerequisites: None

AP Capstone™ is a College Board program that equips students with the independent research, collaborative teamwork, and communication skills that are increasingly valued by colleges. It cultivates curious, independent, and collaborative scholars and prepares them to make logical, evidence-based decisions. AP Capstone consists of two consecutive courses--AP Seminar and AP Research. AP Seminar encourages students to explore topics that matter to them (real-world issues), use inquiry, collaborate in group presentations, and develop research-driven essays. By the end of the year, students will analyze multiple perspectives and ideas, and formulate arguments to craft well-written work. AP Research will offer a deeper, personalized learning exploration of AP Seminar.

## **AP CAPSTONE- AP Research**

Grade: 11-12

Credits: 5

Prerequisites: AP Seminar

AP Research continues the work of the AP Seminar course to complete the AP Capstone™, a College Board program that equips students with the independent research, collaborative teamwork, and communication skills that are increasingly valued by colleges. Working with an expert advisor, students explore an academic topic, problem, or issue that students design, plan and conduct a year-long research-based investigation to address it. The course culminates with an academic paper of 4,000-5,000 words and a presentation, with an oral defense; during which students will answer 3-4 questions from a panel of evaluators.

## ***FOUR - YEAR ACADEMIES***

Pequannock Township High School offers four academies in the areas of Allied Health, STEM, Teaching and Learning and Aviation. Students must complete an application process for entrance into the academies. Each academy has a specific course sequence that students will complete throughout their four years of high school. Specific courses related to each Academy are listed below along with any prerequisites that are necessary. Information about the Academies at Pequannock Township High School can be found by accessing our Academy website at <https://bit.ly/38p3ZRE>.

### ***Allied Health Medical Academy***

#### **PROGRAM DESCRIPTION**

The Allied Health Medical Academy is designed for the extremely self-motivated student who has a strong interest in the medical field. Students admitted into this academy will have the opportunity to study health-care related courses and complete two years of clinical job shadowing and internships at Chilton Medical Center. Students will be eligible to earn 18 Rutgers School of Health Professions credits. All designated Allied Health Medical Academy courses will be given honors level weighting.

#### **COURSE SEQUENCE**

##### **BIOETHICS**

Grade: 9

Credits: 2.5 Pequannock Township High School credits

Prerequisites: Course exclusively offered to students enrolled in Allied Health Medical Academy

Bioethics will explore issues in the life sciences, including the fields of medical treatment and research. Students will explore these conflicts and engage in scientific exploration and debate regarding the impact science has on medical research and funding. The topics covered are controversial and a mature student will be the best suited for this course.

##### **GENETICS**

Grade: 10

Credits: 5 Pequannock Township High School credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

Introduction to the mechanisms of heredity and evolution. Mechanisms of Mendelian inheritance, meiosis, recombination, gene mutation and mapping, and an introduction to modern biochemical, molecular, and population genetics.

## **FUNDAMENTALS OF HEALTH AND WELLNESS**

Grade: 10

Credits: 5 Pequannock Township High School credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

This course provides a comprehensive overview of health and wellness. The impact of lifestyle choices on all aspects of personal health are discussed including physical, mental, emotional, social, and environmental. The course will explore topics to nutrition, physical fitness, stress management, disease prevention, substance abuse, and healthy relationships. The information and skills necessary for making informed and healthful decisions to promote wellness will be discussed with an emphasis on self-responsibility.

## **MEDICAL TERMINOLOGY**

Grade: 11

Credits: 4 Pequannock Township High School credits / 3 Rutgers University credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

Medical Terminology is the study of words that pertain to body systems, anatomy, physiology, medical processes and procedures and a variety of diseases. It provides specialized language for the health care team, enabling health care workers to communicate in an accurate, articulate and concise manner. This course is designed to give the students a comprehensive knowledge of word construction, definition and use of terms to all areas of medical science. The course includes but is not limited to terms to anatomy of the human body, functions of health and disease, and the use of language in processing medical/dental records and claim forms. Included with the Medical Terminology curricula is additional information on various CD-ROMs available to supplement the current curricula or to use as a student-centered teaching tool. The CD-ROMS offer an interactive modality of teaching which enhances learning.

## **DYNAMICS OF HEALTHCARE IN SOCIETY**

Grade: 11

Credits: 4 Pequannock Township High School credits / 3 Rutgers University credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

Dynamics of Healthcare in Society is an orientation to health care and delivery, from an interdisciplinary perspective, with a focus on process skills to include critical thinking, ethical reasoning, effective communication, and self-directed learning abilities. The professional competencies stress application to general issues and topics common to all health care providers. Emphasis is placed on the role of the health care practitioner as both provider and consumer of health care services

## **ANATOMY AND PHYSIOLOGY I**

Grade: 11

Credits: 6 Pequannock Township High School credits / 4 Rutgers University credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

Anatomy and Physiology is the study of the structure and function of the human body. These courses follow a sequential development of the major body systems in an organized and structured curriculum. The course is designed to give the students a selective overview of human anatomical structure and an analysis of human physiological principles. Labs will include slide work, dissection of various animals and studies of the human skeleton. The course will also use computer simulated dissection.

## **EMERGENCY AND CLINICAL CARE**

Grade: 11

Credits: 2 Pequannock Township High School credits / 2 Rutgers University credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

Emergency and Clinical Care is a course that describes how to respond to emergencies before medical help arrives. The course is designed to give the student the knowledge of how to recognize and respond to an emergency. The intent of the course is to help the student feel more confident in his/her ability to act appropriately in the event of an emergency. Students are prepared to 1) obtain a patient medical history, 2) take and record vital signs relative to medical/dental treatment, and 3) acquire cardiopulmonary resuscitation certification.

The goal of this course is to provide students with the training needed to respond to community emergencies. First aid topics such as bleeding, shock, bandaging, burns, head and spinal injuries, chest, abdominal and pelvic injuries, bone, joint, and muscle injuries, splinting, medical emergencies, environmental emergencies, and traumatic injuries will be addressed. Students must complete the BLS Healthcare Provider course through the AHA or similar through the American Red Cross.

## **CLINICAL ROTATIONS**

Grade: 11

Credits: 4 Pequannock Township High School credits

Prerequisites: Course exclusively offered to students enrolled in Allied Health Medical Academy.

The course seeks to establish a core understanding of practices and techniques utilized by the medical profession. During the rotations, students will gain real-world experience shadowing Health Care Professionals and honoring the skills and knowledge learned in classes. Students will shadow in a range of settings, such as inpatient hospital settings, hospital emergency department, and operating rooms.

## **ANATOMY AND PHYSIOLOGY II**

Grade: 12

Credits: 6 Pequanock Township High School credits / 4 Rutgers University credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

Anatomy and Physiology is the study of the structure and function of the human body. These courses follow a sequential development of the major body systems in an organized and structured curriculum. The course is designed to give the students a selective overview of human anatomical structure and an analysis of human physiological principles. Labs will include slide work, dissection of various animals and studies of the human skeleton. The course will also use computer simulated dissection.

## **INTRODUCTION TO CLINICAL RESEARCH**

Grade: 12

Credits: 5 Pequanock Township High School credits / 3 Rutgers University credits

Course exclusively offered to students enrolled in Allied Health Medical Academy

This course is designed to provide students with a basic understanding of what clinical research is and the scientific principles on which it is based. The course starts with a historical perspective on clinical research and then goes on to explore in detail the following topics: purpose and phases of clinical research, clinical trial development and conduct, ethical and regulatory implications, and the roles and responsibilities of all parties involved in clinical research.

## **CLINICAL ROTATIONS**

Grade: 12

Credits: 9 Pequanock Township High School credits

Prerequisites: Course exclusively offered to students enrolled in Allied Health Medical Academy.

The course seeks to establish a core understanding of practices and techniques utilized by the medical profession. During the rotations, students will gain real-world experience shadowing Health Care Professionals and honoring the skills and knowledge learned in classes. Students will be placed in one or two settings.

## **Science, Technology, Engineering and Mathematics (STEM) Academy**

### **PROGRAM DESCRIPTION**

The STEM Academy is designed for the extremely self-motivated student who has a strong interest in the Engineering field. Students in the Academy will follow a prescribed course sequence in the areas of Science, Technology, Engineering, and Math that will prepare students for post-secondary STEM fields. Students concluding the Academy by enrolling in a senior year internship and capstone project, highlight this program. Students will be eligible to earn 26 Seton Hall University credits. All dual credit courses through Seton Hall University will be given honors level weighting.

### **COURSE SEQUENCE**

#### **FUNDAMENTALS OF ENGINEERING**

Grade: 9

Credits: 5 Pequannock Township High School credits

Prerequisites: Course exclusively offered to students enrolled in STEM Academy

The goal of this course is to give students the skills they need to succeed in STEM fields. These skills include, but are not limited to: utilizing and applying the engineering problem solving model, developing an understanding of weights and measurements, acquire skills in orthographic and isometric drawing, developing an understanding of aerodynamics, electrical circuits, structural engineering, mastery of group dynamics, problem identification, brainstorming, critical thinking, long-term planning, and reflection. Most class periods will be spent in group work on projects, involving each step of the scientific and engineering method. Some periods will be student-generated discussion about the relevant scientific and engineering concepts behind the projects. This class will allow students to experience school and the classroom in ways, which reflect industry practices and models.

#### **MODERN COMPUTING APPLICATIONS I**

Grade: 10

Credits: 5 Pequannock Township High School credits / 3 Seton Hall University Credits

Prerequisites: Course exclusively offered to students enrolled in the STEM Academy

This course will expose the student to some accessible applications in modern computer science. Among the topics are video game programming, mobile device programming and robotics.

#### **INTRODUCTION TO COMPUTER SCIENCE I**

Grade: 11, 12

Credits: 5 Pequannock Township High School credits / 4 Seton Hall University credits

Prerequisites: Course exclusively offered to students enrolled in the STEM Academy

Problem solving using computers. The design and implementation of computer programs. Major areas and issues in computer science including social and ethical concerns. Problem solving and pseudocode. Formal specification and verification. Basic software engineering techniques and

software reuse. Data structures. Structured types: arrays, records, files. Objects and methods. Programming in a high-level language, such as C++ or Java.

### **AP COMPUTER SCIENCE PRINCIPLES**

Grades: 10-12

Credits: 5

Prerequisites: none

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. The course is particularly useful for those students who are considering a major or minor in a Computer Science, STEM or Engineering field. All students enrolled in this class are expected to prepare for and take the Advanced Placement Statistics exam in May.

### **ARCHITECTURE W/ AUTOCAD**

Grade: 11

Credits: 2.5 Pequannock Township High School credits/1 NJIT credit

Prerequisites: Course exclusively offered to students enrolled in STEM Academy

This class will introduce students to the AutoCAD Architecture platform. Students will collaborate in teams to design residential and commercial interests. Building Information Modeling (BIM), conceptual design, visualization, and documentation will be explored.

### **3D PROTOTYPES W/ AUTODESK INVENTOR**

Grade: 11

Credits: 2.5 Pequannock Township High School credits/1 NJIT credit

Prerequisites: Course exclusively offered to students enrolled in STEM Academy

This design course will immerse students in creating 3D prototypes within the AutoDesk Inventor platform. Students will utilize the drawing software and a 3D printer to create value engineered models. Students will also develop an understanding of resource conservation and value engineering, while grappling with complex challenges.

### **APPLIED CAD**

Grade: 12

Credits: 5 Pequannock Township High School credits/2 NJIT credits

Prerequisites: Architecture with AutoCAD. Course exclusively offered to students enrolled in STEM Academy

A second course in Computer Aided Design (CAD), additional AutoCAD topics include blocks, move and copy, array, mirror, text, text styles, 3D and isometric modes. Upon successful completion of this course, students should be able to use advanced AutoCAD commands to quickly and efficiently produce 2D and 3D drawings, and also be able to modify the AutoCAD environment (e.g., menus, macros, etc.) to boost productivity.



## MODERN COMPUTING APPLICATIONS II

Grade: 11, 12

Credits: 5 Pequannock Township High School credits / 3 Seton Hall University credits

Prerequisites: Course exclusively offered to students enrolled in the STEM Academy

This course will expose the student to some accessible applications in modern computer science. Among the topics are video game programming, mobile device programming and robotics.

## SENIOR STEM CAPSTONE / UNIVERSITY LIFE (SETON HALL UNIVERSITY)

Grade: 12

Credits: 10 Pequannock Township High School credits / 1 Seton Hall University credit

Prerequisites: Course exclusively offered to students enrolled in STEM Academy

This course is designed to offer students three unique experiences: Portfolio, Project, and Internship Experience, during which students will complete:

- Students will follow the engineering design process to create a new invention of their own.
- Students will engage in real world experiences through job shadow/internships with local businesses.
- Students will complete weekly journals and meet with an advisor to discuss their experiences.
- Students will amend, improve, or replace projects and work from Academy years and create a digital portfolio to share with prospective colleges or employers.
- Students will present their project and internship experiences to faculty, STEM Academy students, and the community.

The course also aims to provide students with academic and personal success; integrate computer technology into academic instruction; familiarize students with University resources and opportunities; improve reading, writing, and analytical skills and support the University mission of "forming students to be servant leaders in a global society."

## S.T.E.M. Biology

Grades: 9

Credits: 6

Prerequisite: Teacher recommendation. Mandatory for all STEM academy students.

This STEM driven inquiry-based investigative course is aligned to the Next Generation Science Standards and the Common Core State Standards. This course synthesizes the major theories and principles of biology of an Honors Biology course with the engineering design practices and innovative critical thinking of a STEM course. The laboratory component of this course has several engineering design challenges not found in other science curriculum at PTHS. A strong math background is preferred. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence. This course is mandatory for students enrolled in the S.T.E.M. Academy. **This course is considered a general level college course. Students who pass this course will earn 4 credits from Seton Hall University.**

### **S.T.E.M. Chemistry**

Grades: 10

Credits: 6

Prerequisite: Successful completion of previous science course and teacher recommendation. Mandatory for all STEM academy students.

The STEM Chemistry course is an analytical lab based course at an honors level. The course is aligned to the Next Generation Science Standards and the Common Core State Standards and further develops student understanding of major chemistry concepts which were first introduced in middle school and 9th grade biology. Science and engineering practices of this course include understanding matter in terms of composition and changes in composition, and become solving scientific problems logically, use and write chemical formulae, as well as, write and balance chemical equations. This course is mandatory for students enrolled in the S.T.E.M. Academy.

### **S.T.E.M. Physics**

Grades: 11

Credits: 6

Prerequisite: Successful completion of both STEM Biology and Stem Chemistry and teacher recommendation. This course is mandatory for students enrolled in the S.T.E.M. Academy.

The STEM Physics course outlined in this curriculum represents a comprehensive full year of Algebra-based HONORS level Physics. The laboratory component of this course has several engineering design challenges not found in other science curriculum at PTHS. A strong math background is preferred. Students are encouraged to question observations, test hypotheses through experimentation, to analyze data, and to reach logical conclusions supported by evidence. This course is mandatory for students enrolled in the S.T.E.M. Academy.

## **Teaching and Learning Academy**

### **PROGRAM DESCRIPTION**

The Teaching and Learning Academy is designed to provide foundational knowledge and skills for students who are interested in pursuing a career in teaching at either the Elementary or Secondary levels. Partnered with William Paterson University Department of Education, students will earn college credit for successfully completing the following courses: Rethinking Disabilities, Child Development & Learning, Educational Practices in Inclusive Classrooms, Foundations of Bilingual & Multicultural Education, Clinical Classroom Experience, Global Awareness, Introduction to Educational Technology & Assessment, Pioneer First Year Success Seminar. The Clinical Classroom and Senior Clinical Experience will place students in Elementary or Middle School classrooms so that students will be engaging in the practice of teaching. All designated Teaching and Learning Academy classes will be given honors level weighting.

### **COURSE SEQUENCE**

#### **HISTORY OF MODERN EDUCATION**

Grade: 9

Credits: 5 Pequannock Township High School credits / 3 William Paterson University credits

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

This course introduces students to the discipline of history by exploring the development and uses of education in the context of the formation of the modern world from the 18th century to the present. It traces how educational ideas, institutions, and policies interacted with political, economic, social, and cultural developments among the principal regions of the world - Europe, the Middle East, Africa, Asia and the Americas - from the Atlantic Revolutions and their aftermath to our contemporary era. Topics include: how historians study history, and the impact of the Enlightenment, Atlantic Revolutions, Industrialization, "New" Imperialism, Nationalism, Cold War, and globalization on educational ideas, institutions, and policies.

#### **GLOBALIZATION AND EDUCATION**

Grade 10

Credits: 5 Pequannock Township / 3 William Paterson University

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

Perspectives on Teaching and Learning examines teaching and learning practices at play in a dynamic global context. The course aims to develop a foundation for global understanding of national education systems from a comparative point of view and places teaching and learning in social, economic, cultural, religious, and political contexts. The course of study provides students foundational knowledge in relation to global, transnational and national schooling policies and practices that, once implemented, become local instruments of national education policy. Students will identify and explore critical global education issues and national policies such as privatization, corporatization, and public investment that impact local school traditions and often result in cultural and political conflict. Students will explore in depth global education reform and global

understanding which are essential foundations for teaching and learning in the 21st century. The course content will be based upon an examination of national systems of education from UNESCO Education for All findings, member countries and partners in the Organization for Economic Cooperation and Development (OECD) and the reported outcomes from the Programme for International Student Assessment (PISA).

### **RETHINKING DISABILITIES**

Grade: 10

Credits: 5 Pequannock Township High School credits / 3 William Paterson University credits

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

Disability is a natural part of the human experience and the effects of a disability will likely impact every person across their lifespan. This course will provide a basic understanding of disability as a social construct and influence students' perceptions of the experience of living with a disability in today's society. Students will explore myths and stigmas about disability as well as issues of access and accommodations within multiple environments. This course is for students with and without disabilities, and may be of special interest to students exploring careers in education, public policy and government, sociology, psychology, technology and health professions.

### **CHILD DEVELOPMENT**

Grade: 11

Credits: 5 Pequannock Township High School credits / 3 William Paterson University credits

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

This course explores child development and learning in physical, cognitive, linguistic, social, moral and emotional domains from birth through adolescence, and the application of knowledge of child development in educational settings spanning preschool through high school. In addition to exploring issues central to developmental theories and principles, the role of children's context and culture, as well as research on child development will be examined. **Within the course embedded P-12 school field experience**, students will have opportunities to observe children, understand their development and learning, and analyze classroom practices and children's behavior through the lenses of a range of psychological theories. The course employs a combination of readings, concept elucidating activities, observations, virtual and field based case study analyses, mini-research projects, and self-examination.

### **CLINICAL CLASSROOM EXPERIENCE**

Grade: 11

Credits: 5 Pequannock Township High School credits

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

The course seeks to establish core understanding of practices and techniques of teaching utilized within classroom instruction. The courses introduce students to various approaches toward teaching, including models of instruction, the NJ Student Learning Standards, and essential elements of effective lesson design, emphasizing the UBD model. At the same time, students will be

exposed to the various teacher evaluation models such as the Danielson Framework. Students will be placed in Elementary or Middle School classrooms to observe teachers in practice.

### **DEVELOPING PEDAGOGICAL CONTENT KNOWLEDGE IN K-6 MATHEMATICS**

Grade 12

Credits: 5 Pequannock Township High School / 3 William Paterson University

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

The purpose of this course is to develop teacher candidates' specialized content knowledge and pedagogical content knowledge in the mathematics topics taught in the elementary school curriculum. The goal is to provide opportunities for students to explore the eight Standards for Mathematical Practice, outlined in the New Jersey Student Learning Standards for Mathematics. The content of the course follows the recommendations for the New Jersey Learning Standards, principles and standards for school mathematics developed by the National Council of Teachers of Mathematics, (NCTM, 2014, NCTM 2000, NCTM, 2002), and reflects performance expectations for K-6 students on statewide and other standardized assessments.

### **FOUNDATIONS OF BILINGUAL & MULTICULTURAL EDUCATION**

Grade: 11

Credits: 5 Pequannock Township High School credits / 3 William Paterson University credits

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

This course will provide participants with the knowledge necessary for understanding the historical, political, legal, social and educational aspects of bilingual and multicultural education and how such knowledge influences teacher practices in Bilingual and ESL programs. Critical discussion of historical and current struggles for access to education in American history is central to this course. Another key focus of this course is learning about methods through which teachers can effectively explore and celebrate the diversity in language, culture, religion, gender, ability and other areas inherent in American classrooms through engaging in culturally relevant instruction; incorporating meaningful, authentic assessment; and including multiple perspectives throughout the curriculum. New research in the areas of bilingual and multicultural education will be examined, and students will analyze and apply best practices based on this research.

### **GENERAL PSYCHOLOGY**

Grade: 12

Credits: 5 Pequannock Township High School credits / 3 William Paterson University credits

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

This course surveys the chief theories, principles, and methodologies of psychology with special emphasis on their relations to human behavior. The biological foundations of behavior, sensory processes, learning, perception, memory, emotion, motivation, personality, and the social bases of behavior and behavior pathology are examined to establish the foundations for advanced study in psychology. Current research findings are included wherever applicable. Placement into this course should be in AP Psychology.

## **SENIOR CLINICAL EXPERIENCE**

Grade: 12

Credits: 10 Pequannock Township High School

Prerequisites: Course exclusively offered to students enrolled in Teaching and Learning Academy.

Students will be placed in Elementary or Middle school classrooms where they will actively participate in the practice of teaching. Students will: observe, assist, plan and gradually implement lessons and units, where appropriate, using the co-planning and co-teaching strategies along with varied materials, technologies, and instructional formats. Assist with classroom routines (e.g., attendance, bulletin board designs, grading classwork and homework, and grade books). Assist with classroom instructions (e.g., one-to-one, small group, large group) to promote learning, social interaction, and student collaboration. Demonstrate professional teacher behavior, appropriate appearance, positive attitude, and commitment (e.g., respect for students, punctuality, appropriate relationship between student and teacher, willingness to accept and act on constructive feedback). Demonstrate positive and nurturing attitude working with children and young adults. Maintain and promote high expectations for self and students. Observe, reflect upon, and gradually implement appropriate techniques for classroom management. Use good judgment in handling classroom emergencies or problematic student interactions.

## [Aviation Academy](#)

### **PROGRAM DESCRIPTION**

Through the support of the Aircraft Owners and Pilots Association (AOPA), Pequannock High School offers a series of courses that will expose students to the aviation and aerospace community. The courses will align with state standards. Students who successfully complete the four-year sequence will be eligible for certifications in their choice of manned flight, such as airplanes, or unmanned flight, such as drones.

### **COURSE SEQUENCE**

#### **LAUNCHING INTO AVIATION**

Grade: 9

Credits 2.5

Prerequisites: None

In this course students will learn about the engineering process, problem-solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible.

They will look at the problem-solving processes and innovative leaps that took space exploration from the unimaginable to the common place in a single generation. Students will also gain historical perspective, starting from the earliest flying machines and leading to the wide variety of modern flying machines and the integral role they play in making today's world work.

#### **EXPLORING AVIATION AND AEROSPACE**

Grade: 9

Credits 2.5

Prerequisites: Launching into Aviation

This aerospace and aviation course provides an understanding for both manned and unmanned flight. It is designed to give students a clear understanding of career opportunities in aviation and aerospace and the critical issues affecting the aviation system. Students will also begin to drill down into the various sectors of aviation and the elements that make up the aviation and aerospace ecosystem. They will discover how advances in aviation created a need for regulation and will learn about the promulgation of civil aviation oversight. Students will explore modern innovations and develop their own innovative ideas to address real-world challenges facing the aviation industry. They will be exposed to a variety of career options in aviation and aerospace and take an in-depth look at the opportunities available.

## **INTRODUCTION TO FLIGHT**

Grade: 10

Credits 2.5

Prerequisites: Successful completion of Exploring Aviation and Aerospace

In the Introduction to Flight Course, students pursuing the pilot and UAS tracks will take a closer look at the aircraft they may one day operate. Students will begin with an exploration of the types of aircraft in use today before going on to learn how aircraft are made and how they fly. Students will understand how aircraft are categorized, be able to identify their parts, and learn about aircraft construction techniques and materials. They will gain an in-depth understanding of the forces of flight—lift, weight, thrust, and drag—including how to make key calculations. They will then touch on aircraft design, looking at stability, aircraft controls, and maneuvering flight. The course will conclude with a focus on career skills related to these topics.

## **AIRCRAFT SYSTEMS & PERFORMANCE**

Grade: 10

Credits 2.5

Prerequisites: Successful completion of Introduction to Flight

In the Aircraft Systems and Performance course, students in the UAS and Pilot tracks will take an in-depth look at the systems that make manned and unmanned aircraft work as well as the instrumentation powered by those systems. Beginning with aircraft powerplants and fuel systems, students will learn about the different options available and how they affect aircraft design and performance. They will go on to explore other key aircraft systems, including electrical, pitot-static, and vacuum systems. Throughout, they will learn about the flight instruments associated with each system and how to identify and troubleshoot common problems. This unit also covers airplane flight manuals, the pilot's operating handbook, and required aircraft documents. Finally, students will learn about the factors that affect aircraft performance and how to determine critical operating data for aircraft.



## ***Alternative Study Options***

### **WORK-BASED LEARNING (WBL) PROGRAM (11885)**

Grade: 12

Credits: 20

Prerequisites: None

The **Work-Based Learning (WBL)** program offers students the opportunity to enhance both academic and vocational skills through coursework and an internship experience. The focus of this program will be to provide students the vocational skills that will assist in preparing them for their postsecondary goals and independent adult living. Students will be able to apply the knowledge and skills discussed in the WBL course to their individual internships. Topics to be covered are, but not limited to, Career Clusters, communication, collaboration, critical thinking, problem-solving, time management and leadership. Students are required to solidify their own WBL placement. A WBL coordinator will supervise students on their worksites.

### **SENIOR CAPSTONE (11865)**

Grade: 12

Credits: 20

Prerequisites: None

The Senior Capstone is a program that provides an opportunity for eligible PTHS seniors to spend a portion of their last year of high school in professional internships with local companies or in service learning experiences. To be eligible the senior must be in good academic standing and have a cumulative grade average of 80. Students who elect the Senior Capstone experience will receive a pass/fail grade and ten credits. Students are required to solidify their own WBL placement.

The student must agree to meet attendance and punctuality requirements when scheduled to report to the work/service site. The Senior Capstone program is subject to the attendance policies and procedures of the Pequannock Township School District.

Students who elect to participate in the Senior Capstone Program must:

1. Complete the application packet and interview process;
2. Arrange his/her school schedule to facilitate leaving campus during the afternoon session of the school day during the second semester; and
3. Be able to provide his/her own transportation to the work/service.

In addition, the following requirements are part of the student's responsibilities:

- A weekly journal outlining the activities of the past week. This will be submitted electronically.
- A culminating presentation at the end of the internship documenting the practices observed and learned; an assessment of this career pathway for future interns; and an evaluation of the experience.

- Attendance at scheduled seminars at the high school for group interaction, and a series of discussions on a variety of professional practices. These discussions could include, but are not limited to, professional ethics, resume development and interview skills.