

# LONG BRANCH PUBLIC SCHOOLS



## HIGH SCHOOL PROGRAM OF STUDIES

2020-21

SCHOOL OF LEADERSHIP  
SCHOOL OF SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS  
SCHOOL OF VISUAL AND PERFORMING ARTS

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# Program of Studies

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LONG BRANCH PUBLIC SCHOOLS  
*"Where Children Matter Most"*

2020

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# **Academies**

The Academy structure at the Long Branch High School will allow students individualized attention and direction in their career paths. Every academy will offer the student the core curriculum requirements that they will need to receive their diploma. Part of the curriculum will include elective studies to help students develop their career pathways.

## **Academy of Sciences, Technology, Engineering & Mathematics**

The Academy of Sciences, Technology, Engineering and Mathematics will provide opportunities of study for students whose areas of interests are mathematics, scientific and/or technologically-oriented curricula. In the science strand the students will explore and study all facets of science including physics, biology, and chemistry. In the technology strand the students will be exposed to curricula designed to familiarize them with all phases of computer applications and usage.

## **Academy of Leadership**

The Leadership Academy provides the students the opportunity to explore the areas of civics, business and education. The Civics strand will focus on Law and Public Service. Students will learn about local and state government and participate in activities that impact the community in which they live. The Business and Law strand will help students become talented managers, leaders and future administrators with business skills and knowledge needed for the 21<sup>st</sup> century. The Education Strand will provide course offerings to students with a realistic understanding of teaching and encouraging students to think seriously about the teaching profession.

## **Academy of Visual and Performing Arts**

The Visual and Performing Arts Academy will be the balance between artistic development and academic preparation. Students will explore multi-media careers along with the creative aspects of the tech and business world along with educational pursuits.

## **School of Social Justice**

The School of Social Justice located in the Long Branch Historic High School provides students the opportunity to study the traditional curricular content areas of english, mathematics, science and social studies in a new and intellectually engaging context. Through the incorporation of a thematic approach to each of the courses offered in the program, student instruction is focused on the exploration and discussion of relevant societal issues that impact our world today as they relate to each of the specific content area disciplines. Student instruction also focuses on developing key 21st century learning skills that prepare students for college and career readiness such as effectively researching a subject, critically evaluating the pertinent aspects of a specific topic and synthesizing information in order to develop a compelling argument. Elective course selections designed for students in the School of Social Justice program currently include: Introduction to Debate; Race, Gender and Ethnicity; Introduction to Social Justice, and Entrepreneurship. The overall purpose of the School of Social Justice program is to “Empower students to **advocate for the individual, the community, and the world.**”

## **PROGRAM OPTIONS**

Long Branch High School offers a variety of program options. Descriptions for these program offerings are listed below.

## **Advanced Placement Program**

AP courses are college level courses, with a higher level of expectation than Honors courses. Upon completion of these courses, students should plan to take the appropriate AP Exam. A score of a 3 or more on a scale of 1-5 may result in placement and/or credit at the college level. There is summer preparation work required for many of the AP courses. AP courses are granted additional weight in the GPA calculation.

AP courses typically offered by Long Branch High School include:

AP Literature Composition	AP Calculus	AP Human Geography
AP U.S. History II	AP Macro-economics	AP Physics II
AP World History: Modern	AP Biology	AP Language Composition
AP American Government	AP Spanish Language Culture	AP Environmental Science
AP Studio Art	AP Chemistry	AP Computer Science
AP Psychology	AP Physics I	AP Statistics

## **Honors Program**

Honors courses often include an in-depth study of particular subjects accompanied by rigorous demands upon students in terms of study skills, homework, and independent projects. Honors level courses are granted additional weight in the GPA calculation. Placement in Honors level courses is based in part on students meeting appropriate prerequisites, previous grades earned in the subject area and teacher recommendation. Parental input also plays a role in the placement of students into the Honors program.

## **Special Education**

Long Branch High School provides special education and/or related services to classified students. These programs are designed to meet individualized needs of each child as prescribed in the students Individual Education Plan (IEP). The IEP is developed with the assistance of the Child Study Team, the parent(s)/guardian(s) of the child, a special education teacher and a regular education teacher. The continuum of services offered includes departmentalized and non-departmentalized self contained classes, resource center replacement classes and in-class support in regular education classes. Related services include adaptive physical education, speech and language therapy, counseling, occupational therapy, physical therapy and transportation. Special education students are generally mainstreamed for elective and physical education courses.

Course offerings are English, mathematics, social studies, science, and reading. The curricula used will be the same for the classified and the non-classified student with modifications in instructional strategies and/or testing procedures based upon modifications in the student's IEP. Vocational opportunities are available to special education students through the Monmouth County Vocational programs and Career Center.

Each student's program is continually evaluated to provide consistency in his/her course of study and adequate knowledge for present and future use so that he/she can make a successful transition to life after high school.

## **ESL/Bilingual Education**

These are intensive language acquisition courses offered to all ELL students' grades 9-12 according to their language proficiency levels. These courses develop four basic language skill areas: listening, speaking, reading, and writing. They integrate basic proficiencies from the English Department courses adapting the English curriculum such as the study of literature, paragraph development, and job skills. Study skills and learning strategies are taught for test preparation. The courses prepare students to enter content area academic subjects and give them credit for English I, II, III and IV.

## **Changing or Dropping Courses**

## **Procedures for Requesting a Schedule Change**

A parent may request a schedule change after the assigned deadline for administrative approval by submitting a Request for Schedule Change Form to the Guidance Counselor. Changes to a student's schedule after the deadline will only be approved for extenuating circumstances. Any schedule changes made after the deadline could result in a failed grade for the marking period and might adversely affect determining National Honor Society, class rank, and athletic eligibility. It may also result in loss of credits. In the event of extenuating circumstances, the parent will submit a Request for Schedule Change Form found on the guidance webpage at [www.longbranch.k12.nj.us](http://www.longbranch.k12.nj.us) to the Guidance Counselor. Once the request is reviewed, a conference will be held with the student, parent, teacher, counselor, director of guidance, and principal when necessary. The principal must approve all changes. Any approved schedule change request after the 1st marking period will appear on a student's transcript as Withdraw Pass (WP) or Withdraw Fail (WF).

***Examples Extenuating Circumstances***

An example of extenuating circumstances would be a medical issue that would necessitate a change to a student's schedule in the interest of their personal health and well-being. Documentation from the student's physician would be required prior to adjusting a student's schedule.

***Examples of Schedule Change Denials***

Examples of requests that are made for non-compelling reasons are a change of mind, lack of motivation, failure to seek extra help/tutoring, unsatisfactory academic performance, medical reasons not documented by a physician, request for different teacher, or requests to change periods.

**Course Change Request**

Prior to requesting removal from a course with the principal's approval after the deadline, the student and parent must have a conference with the teacher to put a plan for success in place. If the teacher and the student can demonstrate that the plan has been followed, the student has completed all assignments, and made an effort to seek all additional help available, a request may be made for a conference to discuss removal from the course. The request can be made by submitting the Request for Schedule Change Form.

**Dropping Down From: AP to Honors; Or Honors to a Regular Section**

Students may drop down from an honors section to a regular section of a course only after the first quarter of a new semester. At the end of the first term of the course, students may drop down with administrative approval if they have a grade of "D" or lower in the higher-level class and a plan for success was put in place & completed prior to submitting the request. The student may only drop down to a lower section of the same course. The student's grade in the lower section class will be determined by combining the grades earned in both the higher level and lower level class. The principal's approval is required for this schedule change to be processed.

**GRADUATION REQUIREMENTS**

The Board of Education of the Long Branch School District has established high school graduation requirements with state and district goals. In order to graduate from Long Branch High School and receive a state-endorsed Board of Education diploma, a pupil must:

Successfully complete a program of studies in grades nine through twelve, which shall include, but are not limited to:

Core Curriculum Content	Minimum Courses and Credit Requirement
Language Arts Literacy (LAL)	At least twenty (20) credits including English 9, English 10, English 11, English 12
Mathematics (MA)	At least fifteen (15) credits including Algebra and Geometry
History (HIS)	At least fifteen (15) credits including World History, United States History I and II
Science (SC)	At least fifteen (15) credits
World Language (WL)	At least five (5) credits
Visual and Performing Arts (VPA)	At least five (5) credits
Career Education and Consumer Science (CCS)	At least five (5) credits
Financial, Economic, Business & Entrepreneurial literacy (FEBE)	At least two and a half (2.5) credits
Physical Education (PE)	At least five (5) credits for each year of enrollment
General Electives (GE)	No minimum required

Current graduation requirements are subject to change by the state and/or local Board of Education.

**Grade Weighting (Honors Courses)**

The weighting of grades shall take place for the following honor and Advanced Placement courses:

**English**

English 9	English 10	English 11	A.P. Literature Composition
English 12	A.P. Language Comp		

**History**

World History	U.S. History I	A.P. US History II	A.P. World History: Modern	A.P. American Government
A.P. Human Geography	A.P. Psychology	U.S. History II		A.P. Macroeconomics

**Science**

Biology	Chemistry	Physics	A.P. Biology	A.P. Chemistry	A.P. Physics I
A.P. Physics II	A.P. Environmental Science	A.P. Computer Science			

**World Language**

French IV	French V	Italian IV	Italian V	Spanish IV	Spanish V
Dual Enrollment Portuguese	AP Spanish				

**Mathematics**

Algebra I	Algebra II	Geometry	Pre-Calculus	AP Calculus
Statistics		AP Statistics		

### **Project Lead the Way**

Engineering Design	Principles of Engineering	Civil Engineering/Architecture	Environmental Sustainability	Principles of Biomedical Science
Human Body Systems	Medical Interventions	Biomedical Innovation		

### **Visual and Performing Arts**

AP Studio Art				
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In order not to penalize a student who earns a lower grade in a more challenging course, a weighted value is added to the grades earned in the courses listed above.

### **CLASS RANK**

Class rank is determined by placing the cumulative grade average of the students in descending order.

### **GRADING**

The following numeric grades are utilized for assessing students. It is the responsibility of the students to meet all academic and attendance obligations related to grades. Grades in the ranges listed are described by the comments indicated.

92-100	Excellent	I	Incomplete
84-91	Good	W	Withdrawal
77-83	Fair	NC	No Credit Status
70-76	Poor	WF	Withdrawal Fail
Below 70	Failure	WP	Withdrawal Pass
		P	Pass
		F	Failure

### **REQUIREMENTS FOR PROMOTION**

Credits will clarify a student's grade level status. In order for a student to move on to the next grade level, each student must acquire the following credits:

Grade	Minimum Credits Earned
10	25
11	55
12	85
	120 credits needed to graduate

### **HONOR ROLL CRITERIA**

To be eligible for honor roll, High School students must have grades as follows:

- a. High Honors – An average of 92 or above with only one grade below 92 and that grade cannot be below an 84.
- b. Honors– An average of 84 with only one grade below an 84 and that grade cannot be below a 77.

An incomplete grade in any subject or a dropped subject will render a student ineligible for any honor roll.



## **ENGLISH**

### **4120 English 9 Honors**

NCAA 5.0 Credits

ENG

*Prerequisite: English grade gifted class and/or teacher recommendation*

The primary focus of this course is placed on developing students primary English skills while studying a variety of authors and genres. Students will also be challenged to think critically and student's analytical skills will be refined. Students will develop vocabulary as well as their compositional writing skills through the short stories, novels, dramas, and poems studied. Study skills will also be reinforced throughout the curriculum.

### **4111, 5171, 5190, 5192, 5293, 5294, 5198, 7971, 7990, 5183 English 9**

NCAA 5.0 Credits

ENG

The primary focus of this course is placed on developing students primary English skills while studying a variety of authors and genres. Students will develop vocabulary as well as their compositional writing skills through the short stories, novels, dramas, and poems studied. Study skills will also be reinforced throughout the curriculum.

### **2120 English 10 Honors**

NCAA 5.0 Credits

ENG

*Prerequisite: A grade of 92 or above in the previous English 9(Honors). A proficient score in the most recently taken standardized test and teacher recommendation.*

The primary focus of this course is placed on reinforcing and refining the skills developed in English 9 through the exploration of a variety of genres. Students will also be challenged to think critically and student's analytical skills will be refined. Students will develop progressive skills in vocabulary and compositional writing skills while exploring short stories, novels, dramas, and poems.

### **2121, 5172, 5190, 5192, 5293, 5294, 7969, 7981, 5183 English 10**

NCAA 5.0 Credits

ENG

The primary focus of this course is placed on reinforcing and refining the skills developed in English 9 through the exploration of a variety of genres. Students will develop progressive skills in critical thinking, vocabulary and compositional writing skills while exploring short stories, novels, dramas, and poems.

### **1130, SJ1130 English 11 Honors**

NCAA 5.0 Credits

ENG

*Prerequisite: A grade of 92 or above in the previous English 10 (Honors). A proficient score in the most recently taken standardized test and teacher recommendation.*

The primary focus of this course is an intensive study of American Literature coupled with advanced analytical writing. This course will further develop students' critical thinking and analytical writing skills using various texts from early to modern American Literature. Study skills for PSAT and SAT will be emphasized.

### **3131, SJ3131, 5173, 5190, 5192, 5293, 5294, 7968, 7935 English 11**

NCAA 5.0 Credits

ENG

The primary focus of this course is placed on reinforcing and refining skills taught in English 10. Students will further develop their critical thinking and analytical writing skills using various texts from early to modern American Literature. Study skills for the PSAT and SAT will be emphasized.

### **5120, SJ5120 Advanced Placement English Language and Composition (Grade 11)**

NCAA 5.0 Credits

ENG

This English course is for students who wish to pursue college-level studies while still in secondary school. A.P. students will read texts critically, analyzing rhetoric through extensive writing and discussions. This course primarily analyzes nonfiction texts (both visual and written). Students will be prepared to take the AP English Language & Composition exam in May.

**5140, SJ5140 Advanced Placement English Literature and Composition (Grade 12)**

NCAA 5.0 Credits

ENG

*Prerequisite: A grade of 93 or above in the previous English 11 (Honors). A proficient score in the most recently taken standardized test and teacher recommendation.*

This English course is for students who wish to pursue college level studies while still in secondary school. A.P. students will read critically and reflect on their reading through extensive discussion, writing and rewriting. Students will further develop their critical thinking and analytical writing skills in preparation for the A.P. exam in May.

**5130, SJ5130 English 12 Honors**

NCAA 5.0 Credits

ENG

The primary focus of this course is an intensive study of British Literature coupled with advanced analytical writing. This course will further develop students' critical thinking and analytical writing skills using various texts from early to modern British Literature. College essay writing will be emphasized.

**2141, 2147, 5174, SJ2141, 5190, 5192, 5293, 5294, 7967, 7937, SJ2147 English 12**

NCAA 5.0 Credits

ENG

The primary focus of this course is placed on reinforcing and refining skills taught in English 11 as well as preparing students to succeed in their future years in college or in the work force. Students will further develop their critical thinking and analytical writing skills using various texts from early to modern British Literature. College essay writing will be emphasized.

**5182, 5185 English**

5.0 Credits

ENG

The primary focus of this course on developing students primary English skills. Students will learn to comprehend text in an increasingly complex way. Students will be able to produce writing for a range of purposes and audiences. Students will be able to communicate for a range of purposes and audiences. Student will ultimately be able to engage in research/inquiry to investigate topics and present information. Lessons are taught through a multi-sensory approach utilizing the universal design for learning approach which incorporates real-life experiences that support students in learning these skills.

**5214, 5215 Reading**

5.0 Credits

GE

The primary focus of this course on developing students primary Reading skills. Students will learn to comprehend text in an increasingly complex way. Students will develop vocabulary skills and increase comprehension skills. Lessons are taught through a multi-sensory approach utilizing the universal design for learning approach which incorporates real-life experiences that support students in learning these skills.

**5973 Read 180**

5.0 Credits

GE

This is an elective course for students who desire to improve their reading skills. The course focuses on building background knowledge and content knowledge, strengthen vocabulary, build fluency, enhance writing and research skills, and demonstrate knowledge transfer.

**1909, 7955, SJ1909 Creative Writing I**

NCAA 5.0 Credits

VPA

This creative writing course is a course of instruction for students who have a genuine interest in the creative writing process. It will provide significant background for all four writing genres – essay, poetry, fiction and drama.

**1918 Creative Writing II**

NCAA 5.0 Credits

VPA

*Prerequisite: Successful completion of Creative Writing I*

This course is designed to provide advanced instruction for those students interested in furthering the development of their creative writing abilities. It will provide significant background in all genres – essay, poetry, fiction, drama and mythology.

**1907, SJ1907 Journalism (Trumpet)**

NCAA 5.0 Credits

CCS

This course is designed primarily for students who demonstrate proficient writing skills and who are interested in developing the school newspaper, the Trumpet. The course includes the teaching of basic news writing, editing style, symbol use, error detection, and page layout.

**1905 Yearbook Journalism**

NCAA 5.0 Credits

CCS

This course will present the fundamentals and techniques of photo-journalism including basic photography, photo selection, identification of subjects, caption writing, theme selection, layouts, graphics, advertising and finance. Students will participate in designing and producing the yearbook.

**2145, SJ2145 Race, Gender and Ethnicity**

NCAA 5.0 Credits

GEN

Race, Gender & Ethnicity is a course designed to analyze the intersection of various aspects of social identity in both historical and contemporary society. The course asks students to examine their place in the world, focusing on the inherent biases of the human experience. Students enrolled in this course will be tasked with examining literary and informational texts, analyzing diverse media in the form of film and photograph, and reflecting on their own life experiences. The ultimate goal is to create empathy and understanding for our diverse and varied backgrounds and beliefs through academic analysis, discussion, reflection and activism.

**9660 SAT English**

2.5 Credits

GEN

This course is designed to develop the reasoning skills and conceptual knowledge base needed for success on the SAT examination. Test-taking strategies and techniques will also be discussed. Practice SAT tests will be administered to prepare for the actual test.

**SCIENCE****4320 Biology Honors**

NCAA 5.0 Credits

SCI

*Science Prerequisite: A grade of 86 or above in previous science class and Math Prerequisite: Algebra I or be concurrently enrolled in Algebra I*

This course is recommended for students who have demonstrated above average ability in math and science and plan to pursue a career in the various medical related fields. Students explore biological concepts through an inquiry approach, following the Next Generation Science Standards as does regular biology, but with increased depth and breadth of content. Topics include the study of cell structure and function on a molecular level such as photosynthesis, respiration and protein synthesis. In addition, concepts include biochemistry, cell biology, taxonomy, physiology, genetics, ecology, homeostasis and disease.

**4214, 5365, 5196, 5372, 7987, 7996 Biology**

NCAA 5.0 Credits

SCI

*Math Prerequisite: Algebra I or be concurrently enrolled in Algebra I*

This course is designed to introduce students to the diversity and complexity of the living world around them and the interdependence and interrelationship that exists among all living organisms. Students explore biological concepts through an inquiry approach, following the Next Generation Science Standards. Concepts studied include biochemistry, cell biology, physiology, evolution, genetics,

ecology, homeostasis and disease. Connections are made between these biological concepts and student lives

**5350, SJ5350 Advanced Placement Biology**

NCAA 6.0 Credits SCI

*Science Prerequisite: Biology, Chemistry, Physics or concurrently enrolled in Physics.*

*Math Prerequisite: Algebra II or Statistics, a student can be concurrently enrolled in Algebra II or Statistics*

Advanced Placement Biology is a second year of biology, which is based upon the College Board Curriculum Guide for College Level Biology. The curricula addresses the 4 big ideas of AP biology which include evolution and diversity, energy and molecular building blocks, information transfer in life processes and biological and ecological interactions. Laboratory work will be extensive and involve student directed inquiry. This course will prepare a student for all biological and medical fields of study in college. Students will be required to take the Advanced Placement Exam.

**3330 Chemistry Honors**

NCAA 5.0 Credits SCI

*Science Prerequisite: Biology or Biology Honors and Math Prerequisite: Algebra I, Geometry or concurrently enrolled in Geometry*

Chemistry is a course based on regular laboratory investigations of matter, chemical reactions, and the role of energy in those reactions. Students in Chemistry compare, contrast, and synthesize useful models of the structure and properties of matter and the mechanisms of its interactions. In addition, students enrolled in this course are expected to: gain an understanding of the history of chemistry, explore the uses of chemistry in various careers, investigate chemical equations and problems related to personal needs and societal issues, and learn and practice laboratory safety.

**3331, 5363, 5383, 5363 Chemistry**

NCAA 5.0 Credits SCI

*Science Prerequisite: Biology or Biology Honors*

*Math Prerequisite: Geometry or concurrently enrolled in Geometry*

This course is designed to meet the various curriculum requirements for an introductory course in chemistry. It is based upon chemistry-related technological issues that now confront society and the world. The course has been designed to help students realize the important role that chemistry will play in their personal and professional lives; to use the principles of chemistry to think more intelligently about current issues they will encounter that involve science and technology and to develop a lifelong awareness of the potential limitations of science and technology. A major emphasis will be placed on the structure of matter and how it influences chemical and physical properties through an environmental theme. Laboratory experiences lead to theory development, which in turn, leads to practical application. During the course the student should acquire a greater facility in critical thinking, especially in dealing with problems in science and technology. Students will gain a firm foundation on which to harbor further scientific ideas.

**5360, SJ5360 Advanced Placement Chemistry**

NCAA 6.0 Credits SCI

*Science Prerequisite: Biology Honors or Biology, Chemistry Honors or Chemistry, Physics*

*Math Prerequisite: Algebra II or concurrently enrolled in Algebra II*

Advanced Placement Chemistry is a second year of Chemistry that is based upon the College Board Curriculum Guide for College Level Chemistry. The AP Chemistry course is to provide students with a solid foundation in modern chemistry. Fundamental principles and concepts are presented with an emphasis on rigorous mathematical treatment of quantitative data taken from extensive laboratory work. Students are introduced to sophisticated equipment used in basic analytical work. The maintenance of the 84 average for the first three marking periods is an indication that the student is well prepared to take the Advanced Placement Examination that is given in May.

**5341, SJ5341 Physics**

NCAA 5.0 Credits SCI

*Science Prerequisite: Chemistry or Chemistry Honors and Math Prerequisite: Algebra II or Statistics, a student can be concurrently enrolled in Algebra II or Statistics*

This is an introductory course with some emphasis on the historical and philosophical aspects of science. It is designed primarily for the college preparatory student who is interested in humanities. Course materials are designed to provide a more qualitative mathematical approach to the study of kinematics forces, circular motion, energy, momentum and electrostatics all in one dimension.

**5330, SJ5330 Physics Honors**

NCAA 5.0 Credits SCI

*Science Prerequisite: Chemistry or Chemistry Honors*

*Math Prerequisite: Algebra II or concurrently enrolled in Algebra II*

This is a college preparatory course in physics. Physics is the study of forces and energy and their effect upon matter. The student will have an opportunity to explore the field of linear and curved motion; energy; waves; sounds and electricity. Extensive laboratory work will develop measuring techniques and the ability to interpret physical phenomena. Because the science of physics underlies and is closely related to all other branches of science, the course will prove to be of considerable value to the college bound student.

**5340, SJ5340 Advanced Placement Physics I**

NCAA 6.0 Credits SCI

*Science Prerequisite: No prior coursework in Physics is necessary*

*Math Prerequisite: Students should have completed Geometry and be currently taking Algebra II or an equivalent course.*

This course is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore these topics in two dimensions: in two-dimensions: kinematics, dynamics, circular motion, gravitation, energy, momentum, simple harmonic motion, rotational motion, electric charge, DC circuits, mechanical waves and sound.

**5340B, SJ5340B Advanced Placement Physics II**

NCAA 6.0 Credits SCI

*Science Prerequisite: AP Physics I*

*Math Prerequisite: Students should have completed Geometry and be currently taking Algebra II or an equivalent course.*

AP Physics II is an algebra-based, introductory college-level physics course that explores topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Through inquiry-based learning, students will develop scientific critical thinking and reasoning skills. This course requires that 25 percent of the instructional time will be spent in hands-on laboratory work, with an emphasis on inquiry-based investigations that provide students with opportunities to apply the science practices.

**3346, 5346, SJ3346, 7988, 7994, 5373 Environmental Science**

NCAA 5.0 Credits GEN

*Prerequisite: Must have successfully completed Biology*

This course is a laboratory-based science class emphasizing the function of the earth's system. Emphasis is placed on the human interactions with the Earth's geologic and environmental systems, predictability of a dynamic Earth, origin and evolution of the Earth system and universe, geochemical cycles and energy in the Earth system.

**5689, SJ5689 Advanced Placement Environmental Science**

NCAA 6.0 Credits SCI

*Science Prerequisite: Biology Honors or Biology, Chemistry Honors or Chemistry*

Advanced Placement Environmental Science is an applied science based upon the College Board Curriculum Guide for College Level Environmental Science. The goal of this course is to provide students with the scientific principles, concepts, and methodologies to understand the interrelationships of the natural world, to identify and analyze environmental problems – both natural and human-influenced – to evaluate the risks associated with these problems and to examine alternative solutions for resolving and/or preventing them. This is a lab and field study based course that involves lab skills from Biology and Chemistry. Students will be required to take the Advanced Placement Exam in May.

**3345, 7541, 7915, SJ3345 Forensic Chemistry**

NCAA 5.0 Credits

GEN

*Prerequisite: Must have successfully completed Biology and Chemistry*

This course is designed as a laboratory based career chemistry course that will involve advanced investigative techniques. Students will solve problems both real and hypothetical, and analyze evidence. Using scientific techniques, they will explore the exciting world of forensic chemistry. Some of the sciences that are used during a crime scene investigation may include physics, chemistry, biology, psychology, and criminal justice. Students will use scientific techniques in the above disciplines to solve laboratory case studies

**3347, SJ3347 Comparative Anatomy**

NCAA 5.0 Credits

GEN

*Prerequisite: Biology and Chemistry*

This course is designed to give students a basic background of human anatomy in comparison to other organisms. The course is recommended for students that are interested in professions that include the medical field, physical therapy and physical education. Students will explore the 11 body systems and compare them to other organisms. The course is student centered, inquiry based and follows the Next Generation Science Standards. Students explore the anatomy and physiology of the body by completing activities and labs that are hands on and engaging.

**5382, 5384 Science**

5.0 Credits

SCI

This course focuses on the physical, life, and earth and space domains of science. Students explore matter and its interactions, motion and stability, energy, molecules and organisms, ecosystems, heredity, biological evolution, earth's place in the universe, earth's systems, and earth and human activity. Lessons are taught through a multi-sensory approach utilizing the universal design for learning approach which incorporates real-life experiences that support students in learning these skills.

**MATH****9971, 4211, 5199, 5253, 5273, 7989, 7991 Algebra I**

NCAA 5.0 Credits

MA

This course is designed to give students a foundation for all future mathematics courses. The fundamentals of algebraic problem-solving are explained. Students will explore: foundations of Algebra, solving equations, solving inequalities, an introduction to functions, linear functions, systems of equations and inequalities, exponents and exponential functions, polynomials and factoring, quadratic functions and equations, radical expressions and equations, and data analysis and probability.

**9972 Algebra I Lab**

5.0 Credits

GEN

This course is designed for those students who are enrolled in Algebra I and have been identified through standardized test scores, prior academic history and teacher recommendation as needing additional mathematics instruction. An inquiry based approach that is enriched with supplemental and remediated activities designed to enhance the Algebra I experience is used.

**4220 Algebra I Honors**

NCAA 5.0 Credits

MA

This course provides advanced students with an in-depth level of instruction and an accelerated pace with an intense approach to the requirements of the Algebra I program.

**1221, 5252, 5374, 7972, 7993 Geometry**

NCAA 5.0 Credits

MA

This course is designed to stimulate and develop clear, logical, creative thinking through the study of the basic structure of geometry, geometric relationships, and formal deductive proofs. Areas of study

include tools and language of geometry, reasoning and proof, parallel and perpendicular lines, congruent triangles, relationships within triangles, polygons and quadrilaterals, similarity, right triangles and trigonometry, transformations, area, surface area and volume, circles and probability.

### **4230 Geometry Honors**

NCAA 5.0 Credits MA

This course provides advanced students with an in-depth level of instruction and an accelerated pace with an intense approach to the requirements of the Geometry program.

### **2231, SJ2231, 5251, 5275, 7920, 7992 Algebra II**

NCAA 5.0 Credits MA

*Prerequisite: Successful completion of Algebra I*

This course is designed to build on algebraic and geometric concepts. It develops advanced algebra skills such as, function families, quadratic functions and complex numbers, polynomials expressions and equations, exponential and logarithmic functions, rational functions, statistics, periodic functions and trigonometry, and applying trigonometric functions.

### **2220, SJ2220 Algebra II Honors**

NCAA 5.0 Credits MA

*Prerequisite: Successful completion of Algebra I*

This course is designed to give those students who intend to continue in the math sequence an opportunity to build a sound foundation in algebraic functions and concepts for later use in Precalculus and Calculus. The course includes a review of elementary algebraic functions and concepts, which are then applied to polynomials, factoring, rational expressions, radicals, systems of equations, complex numbers, quadratic and polynomial functions, and exponential and logarithmic functions. This course is a rigorous and challenging course designed for students of exceptional mathematical abilities. This course moves at an accelerated pace and requires intense focus and commitment to the mathematical concepts presented in Algebra II.

### **5241, SJ5241 Precalculus**

NCAA 5.0 Credits MA

*Prerequisite: Successful completion of Algebra I, Algebra II and Geometry*

This course weaves together the previous study of algebra, geometry, and mathematical functions into a preparatory course for calculus. The course focuses on mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Topics include fundamental concepts of algebra, functions and graphs, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, topics in trigonometry, systems of equations and inequalities, matrices and determinants, conic sections and analytic geometry, sequences, induction, probability, and an introduction to Calculus.

### **5230, SJ5230 Precalculus Honors**

NCAA 5.0 Credits MA

*Prerequisite: Successful completion of Algebra I, Algebra II and Geometry*

This course weaves together the previous study of algebra, geometry, and mathematical functions into a preparatory course for calculus. The course focuses on mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Topics include fundamental concepts of Algebra, functions and graphs, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, topics in trigonometry, systems of equations and inequalities, matrices and determinants, conic sections and analytic geometry, sequences, induction, probability, and an introduction to Calculus. This is a rigorous and challenging course designed for the student of exceptional mathematical ability and leading ultimately to the study of calculus.

### **5240, SJ5240 Advanced Placement Calculus**

NCAA 5.0 Credits MA

*Prerequisite: Successful completion of Precalculus*

This Calculus course assumes a prior knowledge and understanding of Algebra, Geometry, and Trigonometry as well as knowledge of various elementary functions. The topics covered in this program

include those in traditional Calculus, as well as additional topics outlined by the College Board for their Calculus AB program. This course is designed to develop the students' understanding of the concepts of Calculus and provide experience with its methods and applications. The course emphasizes a multi-representational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. Through the use of the unifying themes of derivatives, integrals, limits, approximation, and applications and modeling, the course becomes a cohesive whole rather than a collection of unrelated topics. Instructional coverage of course content will be both rigorous and fast paced so that students will be prepared to take the AP Test in May.

### **1248, SJ1248 Financial Algebra**

5.0 Credits

MA

*Prerequisite: Successful completion of Algebra I and Geometry*

This course builds on the skills learned in Algebra I and Geometry. The course is designed to develop a strong foundation in logical thinking and problem solving that will enable students to make informed decisions regarding matters of money and finance in their daily lives. This course furthers the development of functions, which include linear, exponential, piece-wise, quadratics, and step functions. Other topics studied include measures of center and spread, graphical representations of data, principles of finance economics, amortization, supply and demand, revenue and profit functions, loans, compound interest and continuous interest, credit card debt, car ownership, and budgets. Strong review of Algebra I formulas with variables, equations, functions, systems of equations, graphs, statistics, and more within a financial context. Students see algebra translated into powerful, financially focused, real world problems. Students see algebra at work within the most critical areas of finance. Students learn about investments, credit, automobile expenses, insurance, income tax, household budgeting, and more while gaining confidence in working with common algebraic functions.

### **5282/5285 Math**

5.0 Credits

MA

This course is designed to give students a foundation in math concepts. Students are exposed to lessons that support them in understanding of number sense, spatial reasoning, geometric principles, measurement, data, and analytic procedures. Students will learn to solve complex mathematical problems, making productive use of algebra and functions. Lessons are taught through a multi-sensory approach utilizing the universal design for learning approach which incorporates real-life experiences that support students in learning these skills.

### **1249, 1250, SJ1249 Financial Algebra/Math Seniors**

5.0 Credits

MA

*Prerequisite: Completion of Algebra I and Geometry, senior status in need of Math Graduation requirement.*

The first semester of this course will focus on student completion of the NJDOE Portfolio Appeal tasks through intensive studies of key concepts learned in Algebra I, Geometry, and Algebra II. The second semester will focus on Financial Algebra applications. This course is designed to combine algebraic and graphical approaches with practical business and financial applications. Students will explore algebraic thinking patterns and functions in a financial context. Students will be able to solve problems in a variety of areas, including banking, investing, credit, employment and income taxes, automobile ownership, independent living, retirement planning, and household budgeting. The primary purpose of the course is to allow students to achieve success by offering an applications based learning approach incorporating Algebra I, Algebra II, and Geometry.

### **5248, SJ5248 Statistics**

NCAA 5.0 Credits

MA

*Prerequisite: Completion of Algebra I, Algebra II, and Geometry*

This is an elective course for those who have successfully completed Algebra II. It is designed for those students interested in pursuing a career in business, marketing, psychology, mathematics or any field requiring data analysis. It is an introductory statistics course that will involve interactive lessons and projects. Throughout the course we will discuss the nature of statistics and probability, data



descriptions, different distributions of data, confidence intervals, hypothesis testing, testing between means, proportions, and variances, and correlation and regression.

### **5250, SJ5250 Honors Statistics**

NCAA 5.0 Credits

MA

*Prerequisite: Completion of Algebra I, Algebra II, and Geometry*

This is a rigorous and challenging elective course for those who have successfully completed Algebra II. It is designed for the student of exceptional mathematical ability that is interested in pursuing a career in business, marketing, psychology, mathematics or any field requiring data analysis. This course provides advanced students with an in-depth level of instruction and an accelerated pace with an intense approach to the requirements of the Statistics program.

### **5679, SJ5679 Advanced Placement Statistics**

5.0 Credits

MA

*Prerequisite: Completion of Algebra I, Algebra II, and Geometry*

AP Statistics is an Advanced Placement course, which is equivalent to a one-semester introductory, non-calculus based college course in statistics. The course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. This course will follow a syllabus approved by the College Board that is designed to prepare students to take the AP Statistics examination.

### **5283 Integrated Math I**

5.0 Credits

MA

This course is the first in a two course sequence designed to begin exploring concepts of Algebra. The fundamentals of algebraic problem-solving are explained. Students will explore: foundations of Algebra, solving equations, solving inequalities, an introduction to functions, linear functions and systems of equations and inequalities. Students who successfully complete this course will move into Integrated Math II to further their study in Algebra.

### **5283-2 Integrated Math II**

5.0 Credits

MA

This course is the second in a two course sequence. This course is designed to build upon the algebraic concepts mastered in Integrated Math I. The fundamentals of algebraic problem-solving are expanded upon. Students will explore: foundations of Algebra, exponents and exponential functions, polynomials and factoring, quadratic functions and equations, radical expressions and equations, and data analysis and probability. Students who successfully complete this course will have met all requirements for Algebra I. At the end of this course, students will take the NJSLA Algebra I.

### **9658 SAT Math**

2.5 Credits

MA

This semester course is an elective for students who desire to improve their SAT mathematics scores. Students in SAT mathematics will develop reasoning skills and a conceptual knowledge base needed for success on the SAT examination. Test-taking strategies and techniques will also be discussed. Throughout the semester simulated practice SAT tests will be administered to prepare for the actual test.

## **HISTORY**

### **4430 World History Honors**

NCAA 5.0 Credits

HIS

*Prerequisite: A grade of 87 or above in Grade 8 social studies class and teacher recommendation.*

Honors World History is an in-depth one-year course. The focus of this course is the advanced study of the historical development of people, places, and patterns of life, from the Renaissance (1300 AD), to the present day. The students will be exposed to a multicultural development of art, religion, science, literature, philosophy, politics, and the impact of the individual on various societies of the world. Students will also be exposed to a multitude of primary and secondary source documents from multiple

perspectives. Students will utilize different methods that historians use to interpret the past, including points of view, historical context, and analytical to build a foundation for understanding of human history across different cultures and civilizations in both Western and non-Western societies.

**4411, 5451, 5197, 5471, 7974, 7966 World History**

NCAA 5.0 Credits

HIS

World History is a one-year course, state-mandated for graduation. The focus of this course is the study of the historical development of people, places, and patterns of life, from the Renaissance (1300 AD), to the present day. The students will be exposed to a multicultural development of art, religion, science, literature, philosophy, politics, and the impact of the individual on various societies of the world. Students will utilize different methods that historians use to interpret the past, including points of view and historical context to build a foundation for understanding human history across different cultures and civilizations in both Western and non-Western societies.

**2420 U.S. History I Honors**

NCAA 5.0 Credits

HIS

*Prerequisite: A grade of 84 or above in World History or World History Honors and teacher recommendation.*

This course is an in-depth presentation of the history of the United States from the origins of European colonization and contact with native cultures, to the establishment of the nation, to its ultimate bloody conflict of Civil War, and finally to its reconstruction, growth, and emergence as a world power. Students will learn that in all cases when looking at history there are a multitude of perspectives to take into account. Utilizing the course textbook, *The American Pageant*, and a wealth of primary sources, documents, artifacts, sculpture, film, and texts of the past and present, students will be able to explore all that has made the country into what it is today. And through current events students will get a sense of the nation and the world around us.

**3421, 5452, 5472, 7973, 7965 U.S. History I**

NCAA 5.0 Credits

HIS

United States History I is designed as a survey course, beginning with the Colonization and Settlement of the United States and continuing to the development of the United States as an industrial nation. This course provides students with a framework for studying political, social, economic and cultural issues and for analyzing the impact these issues have had on American society.

**5430, SJ5430 Advanced Placement U.S. History II**

NCAA 5.0 Credits

HIS

AP U.S. History is designed to be the equivalent of a two-semester introductory college or university U.S. history course. In AP U.S. History, students investigate significant events, individuals, developments, and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. The course also provides seven themes that students explore throughout the course in order to make connections among historical developments in different times and places: 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.

**5420, SJ5420 U.S. History II Honors**

NCAA 5.0 Credits

HIS

*Prerequisite: A grade of 84 or above in US History I or US History I Honors and teacher recommendation.*

This course is an in-depth study of United States history from the age of imperialism in the late 1800s to the modern day. Students will study the economic, political and cultural changes of the time period and learn to approach American history through analyzing diverse perspectives.

**3431, 5453, SJ3431, 5473, 7905, 7964 U.S. History II**

NCAA 5.0 Credits

HIS

United States History II is designed as a survey course beginning with the Emergence of Modern America: Progressive Reforms and continuing to current times. This course provides students with a framework for studying political, social, economic and cultural issues and for analyzing the impact these have had on American society. This course concentrates on the development of historical higher order thinking as a continuum from U.S. History I.

**5450, SJ5450 Advanced Placement American Government/Politics**

NCAA 5.0 Credits

HIS

This course is designed to give students an analytical perspective on government and politics in the United States. Students will become aware of the variety of theoretical perspectives and explanations for different behaviors and outcomes concerning previous historical situations. It will also provide a solid understanding of the present day-decision making process in America's government.

**5440, SJ5440 Advanced Placement World History: Modern**

NCAA 5.0 Credits

HIS

AP World History is designed to be the equivalent of a two-semester introductory college or university world history course. In AP World History, students investigate significant events, individuals, developments, and processes in six historical periods from approximately 1200C.E. to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. The course provides five themes that students explore throughout the course in order to make connections among historical developments in different times and places: 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.

**5435, SJ5435 Advanced Placement Psychology**

NCAA 5.0 Credits

HIS

Advanced Placement Psychology is designed as a rigorous curriculum that provides an overview of current psychological theory and practice. Students will explore the systematic and scientific study of the behavior and mental processes of humans and other animals. Students will be exposed to the principles, concepts and phenomena associated with major subfields within psychology, including biological bases of behavior, cognitive and emotional processes, and diagnosis and treatment of psychological disorders. In accordance with the driving principles of current psychological practice, this course will emphasize scientific method and procedure, ethical standards in research, and critical thinking skills. Student academic performance is expected to meet or exceed the challenging requirements of an introductory-level college survey course. Student work will be required outside of class time. The course provides the opportunity for students to receive college credit by taking the A.P. Psychology Exam.

**5482/5485 Social Studies**

5.0 Credits

HIS

This course focuses on learning important facts about the world we live in as it related to be a contributing member of society. Lessons expose students to topics related to government, American History, history as it relates to living in a community, and geography. Lessons are taught through a multi-sensory approach utilizing the universal design for learning approach which incorporates real-life experiences that support students in learning these skills.

**2937, SJ2937 Law**

NCAA 2.5 Credits

CCS

A college preparatory course in American Law. Emphasis will be on constitutional law, especially as it relates to the Bill of Rights, Criminal Law, Tort Law, and Contract Law.

**2933, SJ2933 Economics**

NCAA 2.5 Credits

CCS

Economics is an elective offered in the social studies department, studying of the choices and decisions people make about how to use the world's resources. Understanding economics will help you make informed decisions for yourself and assess the decisions made by others. This course will help you to understand key economic principles and how those principles are put into action in the real world. This course demands responsibility and concentrates on the development of higher order thinking skills.

**2938, SJ2938 Criminal Justice**

NCAA 5.0 Credits

CCS

This course is designed to appeal to students who have indicated an interest in careers in the law enforcement field. These careers would include such areas as police, sheriff's department, corrections officers, probation and parole officers, lawyers and paralegals. The course is an in-depth examination of the criminal justice and criminal procedures field and will be writing intensive.

**2931, SJ2931 Sociology/2932, SJ2932 Psychology**

NCAA 2.5 Credits Each Class

CCS

These are college preparatory courses in sociology and psychology. The sociology portion will survey the different forms and structures of societies and the reasons for the differences including patterns of behavior. An examination of the American institutions such as the family, education and religion will be part of the sociology curriculum. The purpose of the course of Psychology is to introduce the systematic and scientific study of the behavior and mental processes of human beings and other animals. Included is a consideration of psychological facts, principles, and phenomena associated with each of the major subfields within psychology.

**2936 World Geography**

NCAA 5.0 Credits

GEN

This introductory course on geography is to provide students with the ability to use maps and geographical data concerning the earth's surface, environmental, cultural aspects and physical limitations. The course will also provide students with the sufficient knowledge to recognize the impact geographical relationships have upon nations and the influence this topic has upon international affairs. Upon completion of the course students will have a solid foundation in world geography and be able to characterize and analyze the ever changing globalization taking place in the 21<sup>st</sup> century.

**1933, SJ1933 African American Studies**

NCAA 5.0 Credits

GEN

This course will introduce students to the broad and dynamic discipline of African American Studies. It will examine significant aspects of the history of African Americans with particular emphasis on the evolution and development of black communities from Africa to enslavement to the present current event issues. As is consistent with the interdisciplinary nature of African American Studies, the course will chronologically explore the black experience from a number of perspectives: history, politics, economics, sociology, psychology, religion, culture, and so forth. We also will study the progression of black political and social thought, engagement and protest, and the struggle to enact change. In doing so, we will investigate the intersections of race, class and gender.

**1935 United States History III/The Vietnam Era**

NCAA 5.0 Credits

GEN

This course covers the politics and cultural changes beginning with the Cold War and America's entry into the Vietnam War. This course offers opportunity to study the current news and debate on historical issues. The course provides a chance to discuss current history topics. Projects include experiencing oral history at the Vietnam memorial and from current United States armed forces participants. This class will include an in-depth study of current events, world views, and include current war analysis.

**5436, SJ5436 AP Macroeconomics**

NCAA 5.0 Credits

CCS

This course is reserved for students who have demonstrated superior performance in social studies coursework and proven themselves to be proficient in algebraic concepts. This is an intensive course that provides students with a thorough understanding of the principles of economics that apply to an economic system as a whole. Emphasis is placed on the study of nation income, and current issues related to macroeconomic measures.

**5550, SJ5550 AP Human Geography**

NCAA 5.0 Credits

GEN

The purpose of the AP Human Geography course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They also learn about the methods and tools geographers use in their research and applications. Emphasis is placed on case studies from around the globe which are compared to the situations at local, regional, and national scales. Internet activities, field excursions, and videos are also used to explore certain topics throughout the course.

**WORLD LANGUAGE****5601 French I****5611, SJ5611 Italian I****4631, 5631, SJ5631, 7997, 7910 Spanish I**

NCAA 5.0 Credits

WL

The four language skills-listening, speaking, reading and writing-are introduced. Emphasis is placed upon listening and speaking through dialogues and conversations pertaining to daily life. Vocabulary and grammatical structures are taught. Communication and correct pronunciation are emphasized.

Students

will also be introduced to the culture of the people whose language is being studied.

**5602 French II****5612, SJ5612 Italian II****5632, SJ5632 Spanish II**

NCAA 5.0 Credits

WL

Level II offers the student the opportunity to further develop mastery of the basic skills-listening, reading, comprehension, speaking and writing. Level I vocabulary is expanded through thematic units (e.g. travel, shopping, Careers). Students acquire a greater flexibility in expressing themselves and improve their comprehension skills through varied activities.

**5603 French III****5613, SJ5613 Italian III****5633, SJ5633 Spanish III**

NCAA 5.0 Credits

WL

These courses combine vocabulary, grammar, reading and conversation. The material acquired in Level I and II is reviewed and the study of vocabulary and grammar continued. Varied supplemental options such as newspapers, magazines and media further develop listening and speaking skills, as well as cultural awareness.

**5604 French IV Honors****5614, SJ5614 Italian IV Honors****5634, SJ5634 Spanish IV Honors**

NCAA 5.0 Credits

WL

The level IV courses stress a mastery of all the language skills. A general grammar review is included in order to increase the student's proficiency in the language. The students are encouraged to express themselves without difficulty in spoken and written forms. Selections of literature are studied and students are assigned specific projects pertaining to the culture and history.

**5605 French V Honors****5615, SJ5615 Italian V Honors****5635, SJ5635 Spanish V Honors**

NCAA 5.0 Credits

WL

The level V course continues to stress a mastery of all the language skills. A review of grammar is provided as needed to increase the student's oral and written proficiency in the language. Selections of literature and periods of history are studied. Students are assigned specific projects pertaining to the culture, literature, and history of the countries. The course is conducted in the target language.

**5636 AP Spanish Language and Culture**

NCAA 5.0 Credits

WL

The AP Spanish Language and Culture course is intended for students who wish to develop proficiency and integrate their language skills, using authentic materials and sources. The AP Spanish Language and Culture Exam itself will assess students' proficiencies in the Interpersonal, Interpretive, and Presentational modes of communication. The exam is 3 hours long and includes both a multiple-choice section and free-response section. The multiple choice section accounts for half of the student's exam grade, and the free-response section for the other half. The AP Spanish Language course will help prepare students to demonstrate their level of Spanish proficiency across three communicative modes (Interpersonal [interactive communication]), Interpretive [receptive communication], and Presentational [productive communication]), and the five goal areas outlined in the *Standards for Foreign Language Learning in the 21<sup>st</sup> Century* (Communication, Cultures, Connections, Comparisons, and Communities).

**5639, SJ5639 Spanish for Heritage Speakers I/II**

NCAA 5.0 Credits

WL

Spanish for Heritage Speakers offers Spanish-speaking students opportunities to study formally in an academic setting in the same way the native-English-speaking students study English language arts. These may include a desire to reactivate the Spanish they have learned in the past and develop it in the future. Students are given an opportunity to learn more about their language and culture heritage, to acquire skills in Spanish, to develop or augment academic language skills in Spanish, or to fulfill a foreign language requirement. In this context students can learn how to critically analyze a text, write poetry, or acquire new information in different academic content areas. Activities will include a review of grammar and syntax based on student need, participation in varied topical conversations, internet research and presentation of written and oral reports.

**BROOKDALE DUAL ENROLLMENT OPTION****Dual Enrollment courses receive AP weighting for GPA calculations purposes****5981 PORT 101 Elementary Portuguese I****4.0 Credits****WL**

This course is designed for students with no previous knowledge, or very limited knowledge, of the Portuguese language. Strong emphasis will be placed on acquiring conversational and comprehension skills, using practical and interesting situational materials that will stress both language and culture. Grammatical patterns and syntax will be stressed with the aim that students read and write what they have learned to say and understand. This course is not open to native speakers.

**PORT 102 Elementary Portuguese II****4.0 Credits****WL**

*Prerequisite: Grade of a C or better in PORT 101 or permission of the instructor*

Students will build upon skills acquired in the first semester course and will be able to express themselves in a variety of more complex situations in Portuguese. This course is not open to native speakers.

**PHYSICAL EDUCATION**

Physical Education is a New Jersey State requirement for graduation. The state mandates all students demonstrate proficiency in a variety of skills and physical education/academic areas for the successful

completion of this requirement. Every student must participate in physical education while enrolled in the high school. Comprehensive Health & Physical Education focuses on preparing the students to lead an active and productive lifestyle. Physical education is an essential and integral part of the total education program. The grades 9-12 Physical Education Units are a cohesive set of five units that will scaffold instruction from one grade level to the next. The units have been developed as building blocks of skills and concepts that will move instruction from one unit to the next. All units are made up of a blended set of standards and cumulative progress indicators that fully encapsulate the major ideas and themes of the unit. The incorporation of different standards through major, supporting and additional concepts provide a greater opportunity for comprehensive Physical Education instruction in each unit. The units progress from wellness education for life (fitness concepts and activities) to developing and applying movement education skills in isolated and applied situations in various activities such as individual skill development, team activities and strategies and cooperative activities which may lead to lifelong fitness and wellness. \*All Health courses grades 9-12 include education in bullying prevention and awareness, dating violence prevention, and suicide prevention.

**4511, 7963, 7985 Grade 9 Health**

5.0 Credits

PE

The health component of this course includes concepts in the areas of alcohol, drugs and tobacco use and misuse, human growth and development, reproduction, human sexuality, A.I.D.S., S.T.D's and interpersonal communications. The Physical Education portion of this course includes a variety of activities selected from among the following: football, soccer, volleyball, basketball, softball, weight training, badminton, tennis, pickleball, floor hockey, ultimate Frisbee and personal fitness/nutrition. Written and performance assessments are used to determine mastery in this course.

**5521, 7963, 7985 Grade 10 Health/Drivers Ed**

5.0 Credits

PE

The health component of this course involves the study of the automobile in modern life and aims to develop mature attitudes, an understanding NJ Motor Vehicle laws and proper habits for safe driving. Included in this course is the continued study of dating, harassment/bullying behaviors, drugs, alcohol, and tobacco, decision-making and the safe operation of a motor vehicle. Written and performance assessments are used to determine mastery in this course. The Physical Education portion of this course includes a variety of activities selected from among the following: football, soccer, volleyball, basketball, softball, weight training, badminton, tennis, pickleball, floor hockey, ultimate frisbee and personal fitness/nutrition. Written and performance assessments are used to determine mastery in this course.

**5531, 5441, 7963, 7985 Grade 11 Wellness**

5.0 Credits

PE

Safety/First Aid/Treating Specific Injuries/CPR and Rescue Breathing/Drugs, Alcohol, and Performance Enhancer Prevention. Upon completion of the eleventh grade health course the student will have a greater understanding of the human reproductive systems, diseases associated with the reproductive systems, personal relationships, and issues related to sexual harassment. Selected topics related to drug abuse, alcohol abuse, and addiction will also be studied. Additionally, students will receive instruction in the theories and techniques of First Aid and Cardiopulmonary resuscitation (CPR) as established by the American Red Cross. The Physical Education portion of this course includes a variety of activities selected from among the following: football, soccer, volleyball, basketball, softball, weight training, badminton, tennis, pickleball, floor hockey, ultimate frisbee and personal fitness/nutrition. Written and performance assessments are used to determine mastery in this course

**5541, 5441, 7963, 7985 Grade 12 Health**

5.0 Credits

PE

The focus of the senior year in Health Education is to reinforce material covered in previous years on topics including, wellness, nutrition, social and emotional health, interpersonal communication, decision making, goal setting, sexual harassment and relationships. Information pertaining to interpersonal relationships, human sexuality, pregnancy, birth, parenting, genetics and contraception will be presented. Additionally, relevant topics related to the use/abuse of alcohol, tobacco, and drugs will be studied. New Jersey content-specific mandated topics would also be discussed to include:

abstinence, sexual assault prevention, bullying prevention and domestic violence education. The Physical Education portion of this course includes a variety of activities selected from among the following: football, soccer, volleyball, basketball, softball, weight training, badminton, tennis, pickleball, floor hockey, ultimate frisbee and personal fitness/nutrition. Written and performance assessments are used to determine mastery in this course

## **OPTII, SJOPTII OPTION II**

**5.0 Credits**

**PE**

Option II establishes alternate pathways for students of the Long Branch High School to satisfy graduation requirements and meet Common Core State Standards in accordance with New Jersey Administrative Code {NJAC 6A: 8-5.1(a)iii}. Option II alternative experiences are voluntary. Students may fulfill the requirements for graduation by pursuing credits earned through the traditional classroom environments, alternative learning experiences availed through Option II or through a combination of both programs. Option II permits students to engage in a variety of alternative learning experiences which are stimulating and intellectually challenging, enabling them to fulfill or exceed expectations set forth by the Common Core State Standards. Students may take part in Option II alternatives for Health and Physical Education by participating in the following: independent study, and online and distance learning opportunities.

### **5551 Adaptive Physical Education (All levels)**

5.0 Credits

PE

An adaptive program in physical education is conducted in the high school for assigned handicapped students. Instruction and activities are individualized, based on the activities incorporated in 9-12 grade physical education.

### **3560 Teen Pep**

5.0 Credits

GE

*Prerequisite: Application, interview, teacher recommendations, mandatory attendance at summer retreat.*

*Restrictions: Grade 12 only*

The Teen Prevention Education (Teen PEP) is a comprehensive, sexual health program that utilizes peer-to-peer education to increase students' knowledge, attitudes, skills, and behaviors associated with healthy decision-making.

## **ELECTIVES**

### **Dance:**

#### **1871, 1871F Dance I/II**

5.0 Credits

VPA

Dance I/II is an introduction to the study and development of dance. Hip hop, jazz, ballet and modern dance techniques will be introduced and reinforced. Techniques in composition will also be discussed and demonstrated. All students will be required to perform in the end of the year recital. Students who feel they are beyond this level may audition for another level of dance.

#### **1873 Dance III/IV**

5.0 Credits

VPA

*Prerequisite: Dance I/II and/or Audition with Instructor*

Dance III allows students to continue the specialized training given previously in Dance I/II. Students concentrate on increasing skill level, technique, flexibility, perfection of style and performance quality. All students will be required to perform in the end of the year recital.

#### **1874 Performance Dance**

5.0 Credits

VPA

*Prerequisite: Dance I/II and/or Audition with Instructor*



Performance Dance allows students to continue extensive techniques and dance proficiency with more difficult dance pieces and/or projects. Special emphasis is placed on performance, style, technique and choreography. All students will be required to perform in the end of the year recital. Note: Performance dance is open to students in grades 9-12 and will require an audition and interview by the instructor during the spring of the previous year

**5875 Advance Performance Dance**

5.0 Credits VPA

*Prerequisite: Audition*

This course is a direct continuation of the specialized training given previously in Dance IV. The curriculum will concentrate on technique, style, performance, and choreography in jazz, ballet, tap, modern and lyrical dance. Performances during and after school are required as a means of assessment. Students will be responsible for missed assignments from other classes. Note: Performance dance is open to students in grades 11-12 and will require an audition and interview by the instructor during the spring of the previous year.

**Band:**

**5824 Marching Band/Symphonic Band**

7.5 Credits VPA

Open to all students in grades 9-12 who have achieved a reasonable proficiency on a band instrument. The band performs for school and community events such as band competitions, football games, pep rallies, parades, and assembly programs, etc. Students will strive towards mastery of technique, musicianship and ensemble performance while maintaining an online portfolio of their progress, basic skills and accomplishments. Marching Band will be taught during quarter 1. Symphonic Band will be taught during quarters 2, 3, and 4. Out-of-school performances are required as a means of assessment. **Students enrolled will participate in all activities of the band except for students participating in Fall High School sports. Those students will be exempt from the field show and assessed on an individual basis.**

**5829 Musical Theater**

2.5 Credits VPA

*Prerequisite: Field Show and Placement Audition*

Membership is limited to the instrumentation of the musical produced by the Drama Department. Emphasis of this course will be performance of musical theater, music books and the listening/focus skills required for success. Rehearsals after-school hours and participation in all performances are required.

**5827 Jazz Band**

2.5 Credits VPA

*Prerequisite: Field Show and Placement Audition*

Study of the literature and rehearsal and performance techniques of the past current popular jazz and jazz rock music as it relates to the stage band, with special emphasis on performance, style and improvisation. This is a performance organization for talented and advanced students which require out-of-school performance of all members. Membership is limited to provide balanced instrumentation. Online practice time (Smart Music) will be monitored as part of student eligibility. This course meets after school one day per week, November through May.

**5830 Chamber Ensemble**

2.50 Credits VPA

*Prerequisite: Field Show and Audition*

Small ensembles will be formed, by audition, in November and will meet from December through June. This course will meet after school hours, December through May. Out of school performances and recital participation are a course requirement.

**1822 American Popular Music**

5.0 Credits VPA

Students will gain an overview of the four major areas of American contemporary music: jazz, rock, country, and musical theater. Each genre is approached chronologically with the emphasis on the socio-cultural aspects of the music. Students will come away with the fundamental skills needed to listen critically to a variety of popular music styles and they will gain exposure to career pathways in the arts. Attention is given to changes in American Music in the new millennium with special attention to cross-genre music, hip-hop, technological developments and the influence of media on popular music.

### **1813 Music Theory**

5.0 Credits

VPA

This course is designed to introduce the music student to scales, intervals, chords, triads, and harmonic rhythms. Students are given the opportunity to learn to harmonize a given part of music, as observed in previous musical compositions and by utilizing and understanding harmonic trends through music history. Vocal, instrumental and piano students will find this course very practical. Such musical knowledge is essential not only for those continuing music studies into college but for persons seriously interested in any aspect of music.

### **1816 Music Technology**

5.0 Credits

VPA

*Prerequisite: Reasonable Ability on and Instrument or Recording Experience*

This course will utilize technology to understand, create and record music. Students will be exposed to engineering and recording and will gain exposure to music software, notation programs, sequencing, marketing, and copyrighting. On-line programs will aid in the students understanding of all basic proficiencies.

## **CHORUS**

### **5832 Concert Chorus**

5.0 Credits

VPA

The Concert Chorus is open to all students with an interest in singing. This course is designed to assist students in the development of basic skills needed for strong vocal performance. Choral singing skills, sight singing, ear training, independence on a part and expressive ensemble performance are the focus of this class. New members are always welcome after a successful voice placement audition with the director. Out-of-school performances and all dress rehearsals throughout the year are required of all members as summative assessments. Additionally, at the end of each semester, all students are required to sing in concert as their mid-term and final exams.

### **5835 Advanced Vocal Performance**

5.0 Credits

VPA

*Prerequisite: Concert Chorus or Audition*

This course is for the serious vocal music student. The focus of this course will be musicianship of the student vocalist through developing a substantial and diversified solo repertoire. Vocal technique, Performance practices, Ear Training, and Sight Singing will be essential elements that will contribute to student success. After school performances are required as part of the grade.

### **5833 A Cappella Singers**

5.0 Credits

VPA

In addition to learning and performing the concert choir repertoire, these select students will demonstrate extensive technique and vocal proficiency with more difficult choral harmonic pieces. These students meet two afternoons per week from September through May.

## **PIANO**

**1841 Piano I/II**

5.0 Credits

VPA

The Piano I/II class is an introduction to the piano. Prior musical experience is not necessary. During the course of the year, students will learn to read grand staff music notation and apply it while learning the rudiments of the piano keyboard. They will learn how to listen to and critique music. They will receive basic instructions in performance skills and gain poise and confidence through performance practices. The second half of the course is a continuation of the Piano I course. Students will have the opportunity to expand their technical skills and be able to play music at the second level. Students will be required to perform simple pieces, solos and duets, in a piano recital at the end of each semester as their mid term and final exams.

**5843 Piano III****5844 Piano IV**

5.0 Credits

VPA

*Prerequisite: Piano I/II; Placement Audition; and/or Approval of advisor*

Piano III and IV classes are both full year courses and are designed to allow students the opportunity to further their technical skills as pianists while developing solid practice and performance skills. Students in advanced piano classes will receive both individual as well as group instruction. Students in advanced piano classes must be self-directed and capable of working independent of the class. Students will have the opportunity to perform in various public forums during the school year as summative assessments and will be required to perform at the end of each semester in a piano recital as their mid term and final exams.

**DRAMA****2854, SJ2854 Public Speaking (NCAA)/2853 Stage Technology**

5.0 Credits

VPA

This course prepares students for public speaking by affording practice in writing, delivering and listening to the different types of speeches. Student's presentation will be followed by group discussion and constructive analysis. Students will explore all aspects of technical theater. Students will learn the basics of sound, lighting, and operation of a fly system. Set construction and design will assist in exposing the student to various career pathways that are possible in the theater. After school and evening performances, centered around the spring production, may be required as part of the grade for this course.

**1851 Speech and Theater**

5.0 Credits

VPA

A survey of the theater arts such as mime, movement, stage geography, acting and technical theater will be included. This course provides a firm foundation for the advanced courses in grade 10, 11, and 12. First year students in speech and theater should enroll in this class.

**1865 Advanced Performance**

7.5 Credits

VPA

*Prerequisite: Two previous Speech/Theater Courses*

This course for talented speech and drama students continues the specialized training given previously. Units include rehearsal techniques, acting, and analyzing the classics. This course will integrate music and dance with acting so that the interested students could study the Musical Theater as well. Westwood Players will find this course very practical.

**ART****1801, 1801A Foundational Art**

5.0 Credits

VPA

Foundational Art is a full year course required for all entry level art students. Concentrated in the realms of two dimensional fine art and pictorial illustration, this course teaches fundamental studio practices and technical skills through a structured progression. Studio based projects stress the key components of sketching techniques, classic drawing styles, basic life drawing, drawing techniques, preliminary rough drafting, finalizing illustrative element and principles, perspective, mixed media and collage application,

color theory, color mixing, and painting methods. From the onset, Foundational Art scaffolds essential knowledge that students will rely and build upon throughout the course entirety, continuing to advanced course work offered in the Visual Arts Program.

### **1802 High Focus Drawing and Painting**

5.0 Credits

VPA

*Prerequisite: Foundation Art or Teacher Approval*

High Focus Drawing and Painting further involves enthusiastic art students in more advanced coursework, while providing a studio environment that nurtures concentration. Expanding on both the media the proficiencies learned in Foundational Art, all students will develop portfolio ready fine art and illustration. Course work will hone accuracy in both figurative and anatomical drawing, strengthen proportional understanding, introduce sight size methodology, surface preparation, increased palette and brush control, and advanced painting techniques from reference material. Further attention is placed on the study of strong composition and perspective, with the continued emphasis of preliminary sketching. Additionally, students will begin working with numerous lighting scenarios and develop proficiency in life drawing. Media use includes a range of drawing pencils, charcoal/pastel, ink, mixed-media application and oil paint.

### **AP1801 AP STUDIO**

5.0 Credits

VPA

*Prerequisite: High Focus Drawing and Painting, and/or teacher approval*

This course operates at a college level of study. It encourages and expects both the creative and systematic study of conceptual and formal issues relating to drawing and painting. Highly motivated students will be provided with an environment that fosters artistic growth, work ethic and focus. Students are expected to strive towards mastery and develop a true understanding of the artistic creation as an ongoing process. A significant commitment of time is necessary to achieve excellence in both preliminary and final artworks. Students will be pushed to think both critically and conceptually, and make informed decisions based on learned knowledge as well as instinct. Working simultaneously inside and out of class, students will perform at an intense level of production to complete high calibre portfolios for examination. The final portfolio submission will epitomize a concentration of fifteen works and formal written commentary that exhibit the sustained investigation of a particular topic, subject matter, stylistic approach and developed technique.

### **1805 Graphic Design I: Principles**

5.0 Credits

CCS

Introductory Design I is an active course that focuses on the major components of graphic art and standard commercial art practices relating to still imagery. A range of topics will be covered to develop conceptual thinking, organizational habits and fundamental project planning as a means to visually communicate ideas successfully. Students will become proficient with traditional graphic art tools and drawing media in addition to computer generated designs using Adobe Photoshop®. An understanding of the guiding Elements and Principles of Design will accompany the exposure to theory. Projects explore creative typography design, graphic icons and logotypes, poster art, digital collage, cover design, greeting cards, promotional material, product branding and album art. Student designers will also expand on these topics and learn the practices of basic printing, project mounting and general construction.

### **1807 Graphic Design II: Commercial**

5.0 Credits

CCS

*Prerequisite: GD1: Principles*

Graphic Design II provides students with an industry relevant experience through client oriented assignments. Building on the proficiencies learned in Graphic Design I, students will pursue advanced Photoshop® applications and couple these skills with other computer based programs such as InDesign and Illustrator. Students will regularly engage in collaborative planning sessions to discuss company design strategies, conceptual mock ups, layout variations, cutting edge typography solutions, and final design presentations. Assignments are purposed for digital marketing and web graphics, product graphics and package design, traditional advertising, contemporary page spreads, information design and commercial logo design. The integration of digital scanning, printing and photography applications will further document presentation ready portfolios purposed for freelance and/or undergraduate submission.

## **BUSINESS**

### **2714, SJ2714 Marketing**

5.0 Credits

CCS

This course is designed primarily for juniors and seniors. This course provides an introduction to the history of American business, economic systems, marketing, activities, the stock market and computerized business activities. This course is of interest to any student who plans to study any of the following areas: business management, marketing, sales and sales management, advertising, labor relations, transportation and finance.

### **2740, SJ2740 Accounting**

5.0 Credits

CCS

Students will be introduced to the double entry bookkeeping system for a single proprietorship, partnership and corporate forms of business. The activities will include journalizing business transactions, posting journal entries to a ledger account and preparing various reports and statements and managing cash control systems. An accounting simulation package will be utilized to give students a realistic approach to problem-solving.

### **2722 Cooperative Marketing Education (CME)**

15.0 Credits

CCS

This course is a cooperative learning experience that combines work experience and a related class. Students will be employed in marketing businesses such as grocery stores, retail stores, restaurants, hotels and motels. In addition, a daily class period will be devoted to instruction and consultation regarding problems experienced on the job, human relation skills and job skills such as interviewing and completing applications.

### **5880 Technology Applications**

Credits 5.0

CCS

This course is an introduction to the latest techniques to acquire basic keyboarding skills. Students will be given the opportunity to learn the following computer applications: how to log in to the High School's network, how to key school-related documents (reports, outlines and lab reports), how to use the computer network to search for sources or information for research projects (library software, Internet and online encyclopedias), history of computers, introduction of all Internet terminology (netspeak), effective ways to search for various types of information, history of the Internet, the basics of e-mail and its use in business and assist other students and staff in searching for useful information for various classes.

## **CONSUMER SCIENCE**

### **3741 Foods for Healthier Living I**

5.0 Credits

CCS

Students will learn basic principles of nutrition, safety and sanitation regulations, food preparation techniques and how to interpret a recipe. The development of measuring skills and wise consumer strategies will also be covered. Students will learn how to make healthful food choices every day. The preparation of attractive meals with attention to kitchen organization and work habits is stressed.

### **3743 Foods for Healthier Living II**

5.0 Credits

CCS

*Prerequisite: Foods for Healthier Living I*

Sports nutrition, food science and careers in the food industry will be the main focus of this course. Lab experiences with recipes that are economical and nutritious will be continued from the foundation acquired in Food for Healthier Living I.

### **6742 International Foods**

5.0 Credits

CCS

*Prerequisite: Foods I and Teacher Recommendation*

This course will enable the student to travel to foreign countries and visit various regions of the United States with their taste buds. Cultural food preferences, food preparation techniques, dietary needs and customs will be stressed in a laboratory setting. Through the study of various cultures and their food customs this course fosters an understanding and respect for cultural differences.

**2751/2753 Early Childhood Development I/II**

2.5 Credits Each CCS

Level I- first half of the year studies the developmental stages of parenting readiness, pregnancy, fetal development, good prenatal care, labor, delivery and how to care for a newborn. Completion of level I is 2.5 credits.

Level II- second half of year studies the development of a child from birth to age 6 and is explored by concentrating on their physical, intellectual, emotional and social growth. Completion of level II is 2.5 credits.

Both levels are designed to educate students about children, their development, and good parenting skills to ensure the proper development of a child. The follow up and final level is a class designed for students who want to pursue careers in the field of Early Childhood Education; Tomorrow's Teachers.

**2755, SJ2755 Tomorrow's Teacher**

5.0 Credits CCS

Tomorrow's Teachers is a 1 year innovative course designed for students who possess interpersonal and leadership skills to consider a career in teaching. The program seeks to provide high school students insight into the nature of teaching, problems of schools and issues affecting the quality of education. Students who take this course will experience 4 themes over the course of one year as well as participate in hands on activities, early childhood classroom observations and field experiences. Each theme is aligned with the NJ Core Curriculum Standards. (Experiencing Learning, Experiencing the Profession, Experiencing the Classroom and Experiencing Education.)

**1731 Creative Sewing**

2.5 Credits CCS

In this half year course, students will be responsible for maintaining a sewing portfolio which documents and reflects growth and progress while enrolled in the class. Students will learn how to use a sewing machine, a wide variety of sewing tools and equipment and create a variety of projects ranging from stuffed animals to pillowcases to scarves to tote bags.

**4801, 4804, 5801 Freshman Orientation/Personal Finance**

5.0 Credits FEBE

Students learn about personal economics and finance in a virtual neighborhood setting. Topics include: spending and borrowing decisions, insurance and other financial services. In addition, students will learn about career choices and opportunities and character education.

**9999 Peer Mentoring**

5.0 Credits GE

*Prerequisite: Application, interview, teacher recommendations, mandatory attendance at summer retreat.*

*Restrictions: Grade 11 & 12 only*

Peer leaders are trained in team-building, group facilitation, problem solving, decision-making, and communication skills. In addition, peer leaders will learn about specific content areas, including time management, academic pressures, relationships with family and friends, drugs and other topics.

**5101, SJ5101 Personal Finance**

2.5 Credits FEBE

Students learn about personal economics and finance in a virtual neighborhood setting. Topics include: spending and borrowing decisions, insurance and other financial service

**Workstudy- Structured Learning**

The primary focus of this course is to provide students with an opportunity to practice interview skills, learn how to fill out resumes and job applications, proper job site etiquette, and real life functional living skills. Lessons are taught through a multi-sensory approach utilizing the universal design for learning approach which incorporates real-life experiences that support students in learning these skills.

### **Workstudy- Transition to Work**

The primary focus of this course is to provide students with an opportunity to explore various job sites within the local community with the guidance of a job coach. Lessons are taught through a multi-sensory approach utilizing the universal design for learning approach which incorporates real-life experiences that support students in learning these skills.

### **Project Lead the Way (Pathway to Engineering)**

Project Lead the Way (PLTW) offers a dynamic high school program that provides students will real-world learning and hands-on experience. Students interested in engineering, biomechanics, aeronautics, and other applied math and science arenas will discover PLTW is an exciting portal into these industries. PLTW's premier high school program, Pathway to Engineering, is a four-year course of study integrated into the students' core curriculum. The combination of traditional math and science courses with innovative Pathway of Engineering courses prepares students for college majors in engineering and E/T fields.

### **3348 Principles of Engineering Design Honors**

NCAA 5.0 Credits                      CCS

*Prerequisite: STEM Academy. A grade of 75 or above in Science and Mathematics courses.*

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.

### **3350 Civil Engineering and Architecture Honors**

5.0 Credits                              CCS

*Prerequisite: A grade of 78 or above in Science and Mathematic courses.*

Students will learn to explore the design and construction of residential and commercial building projects. The course includes an introduction to many of the varied factors involved in building design and construction including building components and systems, structural design, storm water management, site design, utilities and services, cost estimation, energy efficiency and careers in the design and construction industry. CEA also places emphasis on design teams and teamwork, communication methods, engineering standards, and technical documentation. Creating a project-based environment, students will analyze, design and build physical models of residential and commercial facilities. Students will continually hone their interpersonal skills, creative abilities and understanding of the design process. Students will also have the opportunity to design a home for Habitat for Humanity and potentially assist in the construction of the same. This experiential opportunity gives students a lifetime opportunity in understanding the value of contribution as it pertains to our community.

### **3349 Engineering Design Honors**

NCAA 5.0 Credits                      CCS

*Prerequisite: A grade of 84 or above in Science and Mathematic courses.*

Students learn about a design process, design ethics, and technical documentation. Intro to Engineering Design (IED) gives students the opportunity to develop skills in research and analysis, teamwork, technical writing, engineering graphics, and problem solving through activity, and project-based learning. Students get the opportunity to complete fun building projects with power tools while applying math, science and technology knowledge learned in other courses to solve engineering design problems and communicate their solutions. Students will use industry standard 3D solid modeling software to facilitate the design and documentation of their solutions. As the course progresses, and the complexity of the design problems increase, students will learn more advanced computer modeling skills as they become more independent in their learning, more professional in their collaboration and communication and more experienced in problem solving.

### **3351 Environmental Sustainability**

NCAA 5.0 Credits

CCS

*Prerequisite: STEM Academy. A grade of 78 or above in Science and Mathematic courses.*

In Environmental Sustainability, students investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply, and renewable energy. Applying their knowledge through hands-on activities and simulations, students research and design potential solutions to these true-to-life challenges.

### **Project Lead the Way (Biomedical Science)**

The rigorous and relevant four-course PLTW Biomedical Science sequence allows students to investigate the roles of biomedical professionals as they study the concepts of forensics, human medicine, physiology, genetics, microbiology, and public health. Students engage in activities like investigating the death of a fictional person to learn content in the context of real-world cases. They examine the structures and interactions of human body systems and explore the prevention, diagnosis, and treatment of disease, all while working collaboratively to understand and design solutions to the most pressing health challenges of today and the future. Each course in the Biomedical Science sequence builds on the skills and knowledge students gain in the preceding courses. Schools offer the three PLTW Biomedical Science foundation courses within a period of three academic years from the start of implementation and may also offer the capstone course.

#### **3390 Principles of Biomedical Science**

NCAA 5.0 Credits

GEN

*Prerequisite:*

*Must have completed Biology; Open to 9<sup>th</sup> graders concurrently enrolled in Honors Biology*

In this introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical histories, and explore medical treatments and diagnosis of the patient. Research and data collection are key components as well as organization and detail. The activities and projects introduce students to human physiology, advance biology concepts, and medicine, while allowing them to design their own experiments to solve problems through hands on lab inquiry, which requires the student physical presence in class for lab completions.

#### **3392 Human Body Systems**

NCAA 5.0 Credits

GEN

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal Maniken®; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases, that requires the students' physical presence in class for lab completions.

#### **3394 Medical Interventions**

NCAA 5.0 Credits

GEN

Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the code in human DNA via an intense laboratory investigation; evaluate cancer treatment options; and prevail when the organs of the body begin to fail, that requires the students' physical presence in class for lab completions. Through real-world cases, students are exposed to a range of interventions and instrumentation related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

#### **3396 Biomedical Innovation**

NCAA 5.0 Credits

GEN

In the final course of the PLTW Biomedical Science sequence, students build on the knowledge and laboratory skills gained from previous courses to design innovative solutions for the most pressing health challenges of the 21<sup>st</sup> century. Students address topics ranging from public health and biomedical engineering to clinical medicine and physiology via real laboratory inquiry, that requires the students' physical presence in class for lab completions. They may have the opportunity to work on an independent project with a mentor or advisor from a university, medical facility, or research institution.

### **Project Lead the Way (Computer Science)**



At a time when computer science affects how we work and live, PLTW Computer Science empowers students in grades 9-12 to become creators, instead of merely consumers, of the technology all around them. The program's interdisciplinary courses engage students in compelling, real-world challenges. As students work together to design solutions, they learn computational thinking – not just how to code – and become better thinkers and communicators. Students take from the courses in-demand knowledge and skills they will use in high school and for the rest of their lives, on any career path they take.

### **5618 AP Computer Science**

5.0 Credits

CCS

Using Python® as a primary tool and incorporating multiple platforms and languages for computation, this course aims to develop computational thinking, generate excitement about career paths that utilize computing, and introduce professional tools that foster creativity and collaboration. Computer Science Principles helps students develop programming expertise and explore the workings of the Internet. Projects and problems include app development, visualization of data, cybersecurity, and simulation. PLTW is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science Principles (AP CSP). This endorsement affirms that all components of PLTW CSP's offerings are aligned to the AP Curriculum Framework standards and the AP CSP assessment.

### **Career Pathway - TV & Film Production**

#### **3781 TV Studio Production I**

5.0 Credits

VPA

*Restrictions: Grade 10 and 11 only*

This is an introductory course in digital filmmaking. Students will be introduced to techniques in screenwriting/scriptwriting, and video/film production and editing. Students will learn the fundamentals of producing, directing and writing as well as basic digital filmmaking skills including, but not limited to, camera operation, lighting, sound recording, editing, and screenplay writing. At the end of the year, students will be introduced to studio production and the basics of TV Broadcasting for entry into TV & Film II. Students will work in groups and crews and collaborate on several projects throughout the year to develop and produce five to six distinct projects. In addition to chapter tests and quizzes, student's original work will be a major part of their grade. This course will require after school hours, which will be counted as summative grades during the marking period. This course will refine the students writing, filmmaking, and editing skills and prepare them for their entry into TV Studio Production II.

#### **3784 TV Studio Production II**

2.5 Credits

VPA

*Prerequisite: TV Studio Production*

*Restrictions: Grade 11 and 12 only*

This is an intermediate course in digital filmmaking and TV production. In this course, students will refine their skills as a producer, director, and writer and be immersed into the field of TV production. They will be introduced to the field of Broadcast journalism and write, produce and edit a weekly news show broadcasted at the High School. In this course students will get a chance to assume every role within a studio setting including but not limited to, director, producer, anchor, cameraman, technical director, audio technician and teleprompter operator. Students will work in groups and crews and collaborate on several projects throughout the year. Most projects will be geared to the field of broadcast journalism and students will spend most of their time inside the studio working with broadcasting equipment. Students will also be responsible to film and edit school events and/or video productions. It will require after school hours, which will be counted as summative grades during the marking period. This course will refine the students writing, filmmaking, and editing skills and prepare them for their entry into TV Studio Production III.

#### **3783 TV Studio Production III**

2.5 Credits

VPA

*Prerequisite: TV Studio Production II*

*Restrictions: Grade 11 and 12 only*

This is an advanced course for students who have successfully completed TV & Film Production II. Students will master their skills in historical and archival research, interviewing, screenwriting/scriptwriting, and video/film production and editing. Students will refine producing, directing and writing as well as basic digital filmmaking skills including, but not limited to, camera operation, lighting, sound recording, and non-linear editing. Students will also be introduced to techniques in storytelling and creative decision-making. Students will also be responsible to film and edit school events and/or video productions. It will require after school hours, which will be counted as summative grades during the marking period. This course will refine the students writing, filmmaking, and editing skills and prepare them for their entry into TV Studio Production Internship.

### **AFJROTC (Air Force Junior Reserve Officer Training Corps)**

The Aerospace Science (AS) curriculum consists of four levels. The course levels are identified as ROTC1, ROTC2, ROTC3, and ROTC4. The following description follows the AFJROTC four year course sequence, courses are rotated offering a different course each year. Students may enter the program at any grade level. Students are not required to enter or serve in the US arm forces by participating in AFJROTC. However students that complete two years of the ROTC program at a satisfactory level and enter the armed forces will receive one rank promotion upon completing basic training. Students that complete three years of the AFJROTC program at a satisfactory level will receive two rank promotions upon completing basic training. Students will also be enrolled concurrently in Leadership and Wellness training each year:

LEADERSHIP - Leadership is defined by the Air Force as the art of influencing and directing people in a way that will win their confidence, respect, and loyal cooperation in achieving a common objective.

WELLNESS TRAINING - Wellness is a term used to include fitness training as well as health subjects like nutrition, hydration, sleep benefits, and proper exercises. Twenty-percent of the curriculum is devoted to wellness activities and studies. The Air Force calls this program Extreme Excellence Challenge (E2C).

#### **ROTC1**

5.0 Credits

CCS

*Prerequisite: Wellness permission slip signed by parent*

The first level of the AFJROTC instructional program is an introductory course for those entering AFJROTC. Academic material focuses on the development of airpower throughout military history. Cadets will understand the organization of the Department of Defense. Each student receives extensive instruction in Air Force tradition, drill and ceremonies, military customs and courtesies, and leadership principles and techniques. Citizenship principles are reinforced through community service projects. The concepts of good "followership" are fostered as a foundation for leadership.

Students will be required to abide by the dress and grooming standards as mandated by the cadet handbook/ROTC regulations

#### **ROTC2**

5.0 Credits

CCS

*Prerequisite: Wellness permission slip signed by parent*

The second year of Aerospace Science is a general study of aeronautics and components of aerospace power. Academic material covers basic Air Force information and more advanced leadership principles. These principles are practiced through leadership positions within the Cadet Group. Students become instructors in drill and ceremonies and freshman cadet leadership training. Others may assume staff and leadership positions as required within the cadet organizational structure. Organizational planning, time management, and acceptance of responsibility are stressed as cadets assume leadership positions.

Students will be required to abide by the dress and grooming standards as mandated by the cadet handbook/ROTC regulations

#### **ROTC3**

5.0 Credits

CCS

*Prerequisite: Wellness permission slip signed by parent*

The third level explores aerospace issues and the role of military forces in a contemporary world. The scientific aspects of aerospace, with a focus on space or astronomy, are examined. Special attention is given to leadership education such as communicative skills, problem solving, and resource management. Third year cadets assume management and leadership positions in the cadet corps, and their performance is graded. Cadet leaders maintain a management notebook.

Students will be required to abide by the dress and grooming standards as mandated by the cadet handbook/ROTC regulations

#### **ROTC4**

5.0 Credits

CCS

*Prerequisite: Wellness permission slip signed by parent*

Selected upper class cadets are enrolled in AS-400: Management of the Cadet Corps. The fourth year emphasizes career opportunities in civilian life and the military. A comprehensive organization and management project is part of this course. Leadership education covers the principles of job search, the interview process, and job survival skills. Cadets learn how to seek funding for college. Special emphasis is placed on cadet corps management.

Students will require to abide by the dress and grooming standards as mandated by the cadet handbook/ROTC regulations