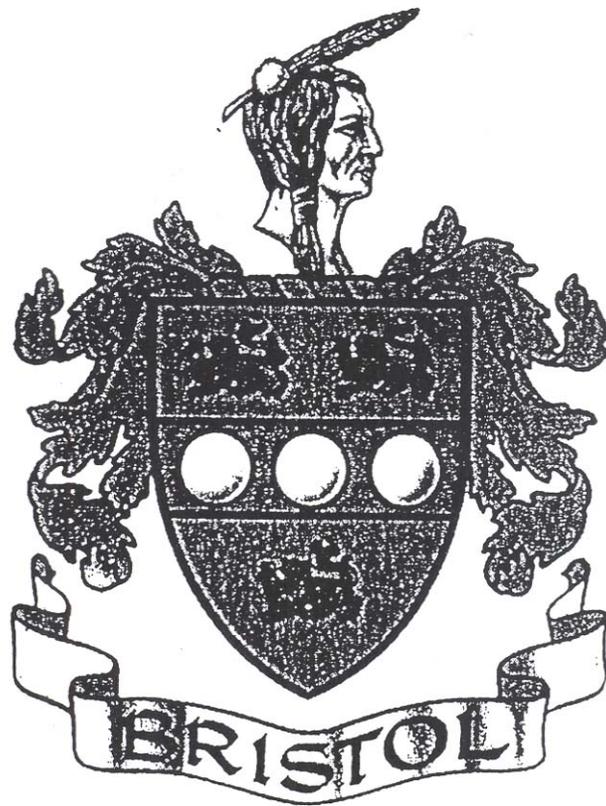


Bristol High School

Curriculum Guide



2026-2027

Message from the Counselor – Mrs. Debra Conard

The proper selection of subject-matter courses is one of the most important tasks that you will undertake. Consider with care the many courses listed in this guide and ask to help you select the most appropriate program of studies for the next school year.

This guide has been prepared for students and their parents to assist in selecting courses that will best meet your educational and career goals. You are encouraged to consult with Mrs. Conard for academic planning. The review of your planned programs should be an ongoing process throughout your high school years.

In consulting with your parents, teachers and staff you should consider the following criteria in making your course selections:

- *Future career goals following graduation from Bristol High School*
- *Aptitude, interests, and abilities*
- *Teacher recommendation*
- *Meeting graduation credit and course requirements, both state and local guidelines*
- *Passing Keystone exams*

If you have any questions or concerns, please feel free to contact Mrs. Conard at dconard@bbsd.org.

SERVICE-LEARNING PROJECT

What is the Service-Learning Project?

- *An opportunity to get involved in community activities that are fun and geared to your interests.*
- *A way to build character, personal values, self-esteem, confidence, empathy, and social responsibility.*
- *A vehicle for you to achieve your academic goals.*
- *An opportunity to become aware of career choices and experience what they involve.*
- *A way to intersect classroom learning with community interaction.*

Students are required to complete 10 hours of service each year (grades 9 through 12). In grades 9-11 students also complete 8 journal entries. In 12th grade students write a three-page paper which highlights a service experience and give a presentation about their project to a small group of peers and teacher advisors. Contact our Service-Learning Coordinator, Ms. Michelle Scenna at mscenna@bbsd.org for more information.

Keystone Exams

The Keystone exams are end-of-course assessments designed to evaluate proficiency in academic content. Students must demonstrate proficiency on the Algebra I, Literature, and Biology Keystone Exams to graduate. Specific dates are published by the Pennsylvania Department of Education.

Keystone exams include multiple-choice questions and constructed response questions. Each test consists of two modules given over two day and each one should take approximately 1.5 hours to complete.

Parents and guardians may review the Keystone Exams if they believe the test may be in conflict with their religious beliefs by making arrangements with the School Test Coordinator once the exams arrive at the school. If, after they review the test, believe that the test is in conflict with their religious beliefs; they may opt out of the testing by submitting a letter to the Superintendent. However, other pathways will be required to satisfy this graduation requirement.

For additional information about the Keystone Exams visit www.pdesas.org.

NCAA Courses

NCAA schools require college-bound student-athletes to build a foundation of high school courses to prepare them for the academic expectations in college.

Not all high school classes count as NCAA core courses. Classes in English, Math (Algebra 1 or higher), Science, Social Studies and Foreign Language, may be approved as NCAA core courses. Remedial classes and classes completed through credit-by-exam are not considered NCAA core courses.

For additional information, you may speak with our Athletic Director, Mr. Michael Poploskie or visit the following NCAA websites:

<https://www.ncaa.org/sports/2014/10/6/core-courses.aspx>

<https://www.ncaa.org/sports/2014/10/24/play-division-i-sports.aspx>

<https://www.ncaa.org/sports/2014/10/24/play-division-ii-sports.aspx>

<https://www.ncaa.org/sports/2014/10/24/play-division-iii-sports.aspx>

Graduation Requirements

The following graduation requirements must be met in order to obtain a diploma from Bristol High School:

- *Achieve minimum credit requirements each year. (See Below)*
- *Successfully completion of the BBSD Service-Learning Project (10 volunteer hours each year & presentation) by the end of their senior year.*

Graduation Requirements for the Class of 2027, 2028, 2029, 2030

<u>Course</u>	<u>Credits</u>
English	4
Math	4
Social Studies	4
Science	3
Academic Literacy	1
Foreign Language (Consecutive Language)	2
Health	.5
Physical Education	.5
Electives	4.5
Service-Learning Project	.5
Personal Finance (class of 2030 only)	.5
Total Credits =	24

** Minimum credit requirement for
promotion to 10th grade = 6

** Minimum credit requirement for
promotion to 11th grade = 12.00

** Minimum credit requirement for
promotion to 12th grade = 17.00

**Minimum credit requirement
for **graduation = 24**

A = 90-100 B = 80-89 C = 70-79 D = 65-69 F = 0-64

WEIGHTED COURSE/QUALITY POINT POLICY

Rank-in-Class is defined as the numerical estimate of a student's scholastic achievement in relation to that of his classmates. All students and all subjects are included in the ranking procedure. Grades in all courses that are applicable for graduation credits (9 through 12) will be counted when computing quality point average.

Class rank is a procedure by which students are placed in order according to their quality point average (QPA). A student's QPA is computed by adding the numerical grade for the courses and the total is divided by the number of credits attempted to yield a QPA.

RATIONALE: *Quality points are computed to provide a measure of the relationship between the level of difficulty of courses selected by a student and his/her level of achievement.*

HONORS Level Courses

Courses in this category meet the standards established by the College Board and are the equivalent of a full year college course. This category will include college level courses with prior approval by the building principal.

<i>Honors English 9</i>	<i>US History & Government I</i>
<i>Honors English 10</i>	<i>US History & Government II</i>
<i>Honors English 11</i>	
<i>Honors English 12</i>	
<i>Honors Physical Science</i>	
<i>Honors Biology</i>	
<i>Honors Chemistry</i>	
<i>Human Anatomy & Physiology</i>	
<i>Honors Physics</i>	

Formula: $1.135 \times \text{student grade} = \text{quality points}$

AP/Dual Enrollment Courses

Courses in this category meet the standards established by the College Board and are the equivalent of a full year college course. This category will include college level courses with prior approval by the building principal.

<i>AP European History</i>	<i>Chemistry 121</i>
<i>AP Calculus AB</i>	<i>US History 151 / 152</i>

Formula: $1.175 \times \text{student grade} = \text{quality points}$

For those "weighted" courses, the numerical grade will be multiplied by the level factor listed in each category to compensate for the greater challenge and competition that it involves. It is hoped that this aspect of the procedures will encourage more high ability students to take on the challenge of advanced courses rather than settling for a less rigorous course where a high grade is certain.

RECOMMENDED SEQUENCE

Below are suggested course sequences that are a guide for students. There are many options for students as they progress through their high school year.

Department	Grade 9	Grade 10	Grade 11	Grade 12
English	<i>English 9</i>	<i>English 10</i>	<i>English 11</i>	<i>English 12</i>
Social Studies	<i>US History & Government I</i>	<i>US History & Government II</i>	<i>European History</i> OR <i>AP European Hist.</i>	<i>Senior Social Studies Electives</i> OR <i>US History 151/152</i>
Science	<i>Physical. Science</i>	<i>Biology</i>	<i>Chemistry</i>	<i>Physics</i> OR <i>Human Anatomy & Physiology</i> OR <i>Chemistry 121</i>
Math	<i>Algebra I, Part I</i> <i>Algebra I</i> <i>Geometry</i>	<i>Algebra I, Part II</i> <i>Geometry</i> <i>Algebra II</i>	<i>Geometry</i> <i>Algebra II</i> <i>Trig/ Pre-Calc</i>	<i>Algebra II</i> OR <i>Math Electives</i> <i>Trig/PreCalc.</i> <i>Calculus</i> OR <i>AP Calculus</i>
Academic Lit Personal Finance	<i>Academic Literacy</i>		<i>Personal Finance (class of 2030)</i>	
Service-Learning Project	<i>Service-Learning Project Hours</i>	<i>Service-Learning Project Hours</i>	<i>Service-Learning Project Hours</i>	<i>Service-Learning Project Hours/ Final Presentation</i>
PE/Health	<i>PE/Health</i>	<i>PE/Health</i>		
Languages	<i>Spanish I</i> <i>Italian I</i>	<i>Spanish II</i> <i>Italian II</i>	<i>Spanish III</i>	<i>Spanish IV</i>
Additional Electives	<i>Art, English, Music, PE, Social Studies, STEM, Wellness</i>	<i>Art, English, Music, PE, Social Studies, STEM, Wellness</i>	<i>Art, English, Music, PE, Social Studies, STEM, Wellness</i>	<i>Art, English, Music, PE, Social Studies, STEM, Wellness</i>

ART

COURSE: Art 1
GRADE LEVEL: 9-12
COURSE LENGTH: Semester
PREREQUISITES: None
WEIGHT: 1.0
PIMS: Art Elective - 1402

COURSE DESCRIPTION: This is an introductory course in the arts. In this course students will gain an introductory and developmental experience in drawing, painting, printmaking and sculpture. Through independent exploration and guided study students will be introduced to key concepts in art processes, art history, art criticism, aesthetics and philosophy. This course is a prerequisite for Art 2.

COURSE: Art 2
GRADE LEVEL: 9-12
COURSE LENGTH: Semester
PREREQUISITES: Art 1 with a grade C or better
WEIGHT: 1.0
PIMS: Art Elective - 1402

COURSE DESCRIPTION: This course builds on the skills and techniques learned in Art 1. Students will build on their knowledge by refining their skills through a more advanced study of media and processes involved in drawing from direct observation, painting, printing, three-dimensional design, art criticism, art history, aesthetics and philosophy. This course is a prerequisite for Art 3.

COURSE: Art 3 /4
GRADE LEVEL: 10-12
COURSE LENGTH: Year
PREREQUISITES: Art 2 with a grade C or better with written permission from art coordinator
WEIGHT: 1.0
PIMS: Art Elective - 1402

COURSE DESCRIPTION: This course is designed for students with a strong interest in the arts who are looking to develop a more sophisticated and refined style for their artwork, or for those students who wish to prepare portfolios for college or employment interviews. Through guided practice and independent self-exploration students will develop individual creative solutions to problems involving advanced drawing skills, spatial design, mixed media, painting, graphics and sculpture. Through each project, art history, art criticism and student's individual art philosophies and artistic styles will be explored.

COURSE: Dramatic Arts
GRADE LEVEL: 9-12
COURSE LENGTH: Semester
WEIGHT: 1.0
PIMS:

COURSE DESCRIPTION: This course will explore many different genres of film. We will dissect each one and focus on the many aspects of filmmaking including: script writing, directing, producing, editing, special effects, voice overs, character development, improvisation and computer-generated imagery. Students will be able to compare and contrast films as well as rewrite scenes/endings and provide character analysis. Student will combine creative writing and imagination for assignments.

ENGLISH

COURSE: Academic Literacy
GRADE LEVEL: 9
COURSE LENGTH: Year
PREREQUISITES: None
WEIGHT: 1.0

PIMS: English/Literature (freshmen) - 01051

COURSE DESCRIPTION: This course addresses the social, personal, cognitive and knowledge-based dimensions of the reading process as outlined in the Reading Apprenticeship framework. Course work provides strategic approaches to reading in academic content area classes. Students work collaboratively and independently to develop competencies in these areas. The course also focuses on students' personal growth as readers, exploring interests and reader identities. Students are required to read self-selected texts in and out of class and to monitor that reading.

COURSE: Honors English 9 – Introduction to Literature
GRADE LEVEL: 9
COURSE LENGTH: Year
PREREQUISITES: Teacher recommendation
WEIGHT: 1.135

PIMS: English/Language Arts I - 01001

COURSE DESCRIPTION: Honors English 9 is a course designed to examine a variety of literary genres (short story, drama, novel, and poetry) in terms of self and society. The course traces a number of universal themes established through these various works and selected texts. The Honors English 9 class will explore and connect both canonical and contemporary literature selections. In addition to mastery of literary content, the course stresses the development of critical thinking skills through written and oral evaluation; class discussion is a hallmark of the honors program. This course will also aid in the development of student skills in expository and creative writing, Keystone test taking strategies, and oral presentation. Grammar and vocabulary skills will be taught through contextual study.

COURSE: English 9 – Literature Genre Study

GRADE LEVEL: 9

COURSE LENGTH: Year

PREREQUISITES: None

WEIGHT: 1.0

PIMS: English/Language Arts I – 01001

COURSE DESCRIPTION: English 9 is a literature survey course and will explore short story, novel, drama, and poetry. The course will explore universal themes established in these selections. In addition to mastery of literary content, the course develops critical thinking skills through written and oral evaluation. It will also develop student skills in expository and creative writing, Keystone test taking strategies, and oral presentation. Grammar and vocabulary skills will be taught through contextual study.

COURSE: English 10 (all level) American Literature

GRADE LEVEL: 10

COURSE LENGTH: Year

PREREQUISITES: English 9

WEIGHT: 1.0

PIMS: English/Language Arts II - 01002

COURSE DESCRIPTION: This year-long course is designed to cover American literature from the late 19th century to the present. Reading and writing are an integral, constant part of the program. Keystone testing and independent reading comprehension strategies are taught. Special emphasis is given to skills required for effective literary analysis through regular written assignments and essays. Higher level thinking skills are taught and practiced. Vocabulary and grammar are covered through the writings, readings, and units of study. Speaking skills will be addressed through formal presentations.

COURSE: Honors English 11 – British & European Literature

GRADE LEVEL: 11

COURSE LENGTH: Year

PREREQUISITES: English 9, 10, and Teacher Recommendation

WEIGHT: 1.135

PIMS: English/Language Arts IV – 01004

COURSE DESCRIPTION: The year-long course is designed for the highly motivated, college bound student. Extensive reading assignments given at an accelerated pace, focus on British and European literature of varying themes. An emphasis is also placed on the college application and admittance process, scholarship/application essay writing, and creation of a working resume and cover letter. Grammar skills, vocabulary, and public speaking are also integral components of the course. Composition requirements include persuasive essay, literary interpretations, personal reflection, critical literature analysis, satirical essay and poetic writing.

COURSE: English 11 – British & European Literature

GRADE LEVEL: 11

COURSE LENGTH: Year

PREREQUISITES: English 9, 10

WEIGHT: 1.0

PIMS: English/Language Arts IV - 01004

COURSE DESCRIPTION: The year-long course focuses on British and European literature of varying topics, as well as contemporary novels and short stories which connect thematically.

Composition requirements include critical and persuasive essays, literary interpretations, satirical essay, and creative / poetic and writing. An emphasis is also placed on creating a working plan for life after high school that includes knowledge of the college application and admittance process, application essay writing, and creation of a working resume and cover letter. Students are given information regarding secondary educational options such as technical and trade schools, two-year programs, and four-year college/university programs. Grammar skills, vocabulary, and public speaking are also integral components of the course. Composition requirements include persuasive essay, literature interpretations, journal and reflection writing, creative, and poetic writing.

COURSE: Honors English 12– Great Works

GRADE LEVEL: 12

COURSE LENGTH: Year

PREREQUISITES: English 9, 10, 11 and Teacher Recommendation

WEIGHT: 1.135

PIMS: English/Language Arts IV - 01004

COURSE DESCRIPTION: *This year long course is designed for the highly motivated, college bound student. Students will focus on college essay and college application completion. Extensive reading assignments are given at an accelerated pace and focus on a collection of great works. The literacy techniques used in poetry, fiction, and drama are analyzed and applied in a variety of formal and informal writing assignments. The course is designed to help develop skills necessary for success in college courses in literature and composition. Close reading skills and a working knowledge of literacy terminology are stringently assessed.*

COURSE: English 12-Great Works

GRADE LEVEL: 12

COURSE LENGTH: Year

PREREQUISITES: English 9, 10, 11

WEIGHT: 1.0

PIMS: English/Language Arts IV - 01004

COURSE DESCRIPTION: *This year long course is geared toward the student who may be undecided regarding their post-secondary plans, but is considering entering college, trade school, the armed forces, or the work-force. It is designed to provide mastery in Language Arts skills: reading, analysis of the written word, written communication, listening, and speaking. Reading assignments will focus on fictional works from varying time periods, as well as modern non-fiction pieces meant to relate to life beyond the high school classroom. The course is designed to help develop writing skills expected in college courses as well as business/technical writing skills expected in the work-force. Grammar skills, vocabulary, and public speaking are integral components of the course. Composition requirements include critical and persuasive essays, literature and article interpretation, journal and reflective writing, and researched pieces. An emphasis will be placed on creating a working plan for life after high school. Students will be given information regarding various continuing education options.*

COURSE: Contemporary Literature Elective

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

WEIGHT: 1.0

COURSE DESCRIPTION: *This course is designed to study examples of modern storytelling. Students will analyze and discuss a variety of novels, short stories, articles,*

podcasts, etc. that will be selected throughout the semester as student interests are discovered. Independent choice reading is also a major component of this course.

COURSE: *Creative Writing Elective*

GRADE LEVEL: 9-12

COURSE LENGTH: *Semester*

WEIGHT: 1.0

COURSE DESCRIPTION: *This course explores different genres of writing, through both reading and writing, as well as the other necessary elements needed to improve writing and composition skills. What is the best way to express a complex idea? What qualities define a writer's distinctive voice? This course is designed with the goal of inspiring students to develop original pieces and ideas.*

COURSE: *Intro to Poetry Elective*

GRADE LEVEL: 9-12

COURSE LENGTH: *Semester*

WEIGHT: 1.0

COURSE DESCRIPTION: *This course offers students an overview of the evolution of poetry. Throughout this semester-long elective course, students explore various forms of poetry, reading the works of poets from diverse cultural backgrounds and time periods. Through close reading, discussion, and creative writing exercises, students develop critical thinking skills while practicing their ability to interpret and appreciate the power of language and imagery. By examining themes, styles, and poetic devices, students develop a deeper understanding of the human experience and enhance their own writing. This course encourages students to engage with poetry as both readers and writers, fostering a lifelong appreciation for the art form.*

FOREIGN LANGUAGE

COURSE: *Italian I*

GRADE LEVEL: 9-12

COURSE LENGTH: *Year*

PREREQUISITES: *None*

WEIGHT: 1.0

PIMS: *Italian I - 06141*

COURSE DESCRIPTION: *Italian I is a full year course. This is an introductory course to the Italian language and its culture. The skills of listening, speaking, reading and writing as well as the study of culture, history, geography and the interrelations of language are the essential elements taught in first year Italian. Computer and technology are integrated weekly into the curriculum.*

COURSE: Italian II
GRADE LEVEL: 10-12
COURSE LENGTH: Year
PREREQUISITES: Italian I
WEIGHT: 1.0

PIMS: Italian II - 06142

COURSE DESCRIPTION: Italian II is a full year course. This is a continuation to and builds upon the Italian language and its culture. The further development of the skills of listening, speaking, reading and writing as well as the study of culture, history, geography and the interrelations of language are the essential elements will be continued in second year Italian. Computer and technology are integrated weekly into the curriculum.

COURSE: Spanish I
GRADE LEVEL: 9 - 12
COURSE LENGTH: Year
PREREQUISITES: None
WEIGHT: 1.0

PIMS: Spanish I - 06101

COURSE DESCRIPTION: Spanish I is a full - year major course. The course presents a basic introduction to the Spanish language, its vocabulary and grammar. All language skills listening, speaking, reading and writing skills are developed to a beginning level. Basic geographical concepts and cultural patterns are also introduced.

COURSE: Spanish II
GRADE LEVEL: 10 - 12
COURSE LENGTH: Year
PREREQUISITES: Spanish I
WEIGHT: 1.0

PIMS: Spanish II - 06102

COURSE DESCRIPTION: Spanish II is a full year major course. The course continues the development of basic skills of the Spanish language, including listening, speaking, reading and writing. This course presents vocabulary and grammar.

COURSE: Spanish III/IV
GRADE LEVEL: 11 – 12
COURSE LENGTH: Year
PREREQUISITES: Spanish I, II
WEIGHT: 1.1

PIMS: Spanish III - 06103

COURSE DESCRIPTION: Spanish III is a full year major course which is offered as an elective. The course intensifies the development of basic language skills, including listening, speaking, reading and writing. Various cultural situations are studied. The course presents vocabulary and grammar. Spanish IV is a full year major course which is offered as an elective. The course intensifies and summarizes the development of Spanish language skills including listening, speaking, reading and writing and summarizes the development of Spanish language skills. Spanish literature and history are studied.

HEALTH & PHYSICAL EDUCATION

COURSE: Health Education

GRADE LEVEL: 9 - 12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS: Health & Education - 08051

COURSE DESCRIPTION: The object of Health Education is to establish in students the importance of making healthy choices. Students face many important decisions every day and the choices they make can greatly affect their futures. It is the hope of the instructors that students will realize that the choices they make today will greatly affect them later on in life. Healthy habits are important for achieving success in personal, family and community life.

COURSE: Physical Education

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS: Physical Education - 02001

COURSE DESCRIPTION: Physical Education provides guidance and instruction through physical activities designed to help students develop fitness and recreational skills. There is a strong emphasis on developing life-long skills that can be carried into adulthood. It is the hope of the instructors that students will develop respect for their bodies and continue to take care of themselves after the class is finished.

COURSE: Wellness

GRADE LEVEL: 9 - 12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS: Health & Education - 08051

COURSE DESCRIPTION: The aspects of wellness that are important for overall well-being are physical health, mental health, emotional health and social health. This course will provide information in these four domains. Students will learn how positive wellness habits will help them to stay healthy in the future. Consequently, negative wellness habits may result in diseases, obesity, shorter life expectancy and a low quality of life. We will also practice meditation and yoga in order to reduce stress and increase physical fitness.

COURSE: Personal Fitness

GRADE LEVEL: 10 - 12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS: Health & Education – 08051

COURSE DESCRIPTION: Students will design and implement a weekly personal fitness program. Students create a plan that includes both cardio/respiratory elements as

well as resistance training. Students will be required to show weekly progress through resistance and/or duration.

MATH

COURSE: Algebra I

GRADE LEVEL: 9

COURSE LENGTH: Year

PREREQUISITES: none

WEIGHT: 1.0

PIMS: Algebra I - 02053

COURSE DESCRIPTION: Students will be exposed to an extensive study of the basic concepts of a first year Algebra course, with an emphasis on applications to science and careers. Topics discussed are operations involving signed numbers, simplifying variable expressions, linear equations and inequalities, linear functions, non-linear functions and their graphs. Completion of Keystone preparation materials is a core requirement for success. The course will also include an introduction to probability, and statistics.

COURSE: Algebra I – Part 1; Algebra I – Part 2

GRADE LEVEL: 9-11

COURSE LENGTH: Year

PREREQUISITES: Teacher recommendation and Principal approval

WEIGHT: 1.0

PIMS: 02054

COURSE DESCRIPTION: Algebra I part 1 and 2 is the study of Algebra I over the course of 2 years. Students will be exposed to an extensive study of the basic concepts of Algebra I. Topics discussed are operations involving signed numbers, simplifying variable expressions, linear equations and inequalities, linear functions and their graphs. Completion of Keystone preparation materials is a core requirement for success. The course will also include an introduction to probability and statistics.

COURSE: Algebra II

GRADE LEVEL: 10-12

COURSE LENGTH: Year

PREREQUISITES: Successful completion of the Algebra I course and either teacher recommendation or completion of the geometry elective

WEIGHT: 1.0

PIMS: Algebra II – 02056

COURSE DESCRIPTION: This course reviews and extends the concepts of Algebra I bringing into greater depth the study of equations, inequalities, problem solving, factoring, linear equations, simultaneous equations and modeling. A study of quadratic functions, exponential functions, and rational functions, in preparation for advanced topics, is included in the course. Geometry, statistics, and probability are integrated into this study.

COURSE: Geometry

GRADE LEVEL: 10-12

COURSE LENGTH: Year

PREREQUISITES: Algebra I

WEIGHT: 1.0

PIMS: Geometry - 02072

COURSE DESCRIPTION: This course is designed to involve the student in a study of geometric shapes, spatial and angular relationships, and transformational geometry through the application of fundamental algebraic operations

COURSE: Trigonometry/Pre-Calculus

GRADE LEVEL: 10-12

COURSE LENGTH: Year

PREREQUISITES: Successful completion of Algebra I & Algebra II.

WEIGHT: 1.1

PIMS: Pre-Calculus – 02110

COURSE DESCRIPTION: This course extends the student's algebraic concepts to the trigonometric functions. Fundamentals necessary for success in calculus are also covered including: quadratic, exponential, logarithmic, power, and polynomial functions including the analysis of domain, range, and asymptotic behavior. This course is designed for students whose past achievement indicates that they can pursue the study more rigorously.

COURSE: Calculus

GRADE LEVEL: 11-12

COURSE LENGTH: Year

PREREQUISITES: Successful completion of Algebra I, Algebra II and Pre-Calculus.

WEIGHT: 1.1

PIMS: Calculus - 02121

COURSE DESCRIPTION: The calculus course initially enhances the student's learning of algebra, geometry and trigonometry. Then, an in-depth study of limits, derivatives and integrals is pursued. A daily menu of work problems is also offered. Completion of daily assignments is a requirement for success in this course.

COURSE: Advanced Placement Calculus AB

GRADE LEVEL: 12

COURSE LENGTH: Year

PREREQUISITES: Calculus

WEIGHT: 1.175

PIMS: Calculus – 02124

COURSE DESCRIPTION: This course is intended for students who have a thorough knowledge of college preparatory mathematics, including algebra, geometry (rectangular and polar coordinates), equations and graphs, lines, and conics and who have successfully completed the calculus course. Functions, limits, and continuity are topics covered thoroughly, followed by a rigorous study of differential and integral calculus. **Taking the Advanced Placement test is required.**

COURSE: *Applications of Math*

GRADE LEVEL: 10-12

COURSE LENGTH: Semester

PREREQUISITES: Algebra I

WEIGHT: 1.0

PIMS: *Mathematics and Applications – 02154*

COURSE DESCRIPTION: *The goal of this course is to refine and extend concepts learned in algebra, geometry, statistics and probability which includes a range of everyday situations through the application of practical problem-solving strategies. Emphasis is placed on those topics required for success in college Algebra.*

COURSE: *Personal Finance*

GRADE LEVEL: 10-12

COURSE LENGTH: Semester

PREREQUISITE: *Successful completion of Algebra I*

WEIGHT: 1.0

COURSE DESCRIPTION: *This course is designed to help students prepare to be financially responsible young adults. Students will further develop their math skills in practical, real-life situations. Some topics covered in this course are understanding income, banking concepts, developing a credit score, purchasing/leasing a vehicle, and renting/purchasing a home.*

COURSE: *Project-based Mathematics*

GRADE LEVEL: 11-12

COURSE LENGTH: Semester

PREREQUISITIE: *successful completion of Algebra I*

WEIGHT: 1.0

COURSE DESCRIPTION: *Students will design, develop, and construct hands-on solutions to real-life application problems using skills learned in algebra. Projects teach students the rigorous mathematics necessary for college and career readiness. To complete these projects, students will work independently and collaboratively with their classmates.*

COURSE: *Statistics*

GRADE LEVEL: 11-12

COURSE LENGTH: Semester

PREREQUISITE: Algebra II

WEIGHT: 1.0

PIMS: *Mathematics and Applications – 02154*

COURSE DESCRIPTION: *The study of statistics is now a requirement for many university majors. Students in this class will perform statistical tests on data sets using technology in order to organize, analyze, and predict outcomes. The study includes, but is not limited to, basic data analysis, curve fitting, and data collection. This is a rigorous course that will require students to apply algebra skills in order to be successful.*

MUSIC

COURSE: Digital Media and Sound Engineering

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS:

COURSE DESCRIPTION: This one-semester course is designed for students with an interest in creating, editing, learning new media, and storytelling through use of a variety of digital media tools. Throughout the course students will become familiar with the use of such programs as iMovie and GarageBand and other web-based applications. Students will use the various digital media tools on a variety of projects that will include, but not limited to: podcasting, blogging, and digital portfolio design.

COURSE: Guitar

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS:

COURSE DESCRIPTION: This one-semester course is designed for students with no previous guitar experience. Students will receive guidance and direction in solving problems related to playing the guitar at a beginning level and will learn many of the different styles, skills and techniques required to become a successful guitarist. Areas of concentration include: correct posture, note reading, aural skills, flat-picking, rhythmic patterns, chord study, finger-picking styles, musical forms, improvisation and performing experiences

COURSE: Introduction to Piano

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS: Piano - 05107

COURSE DESCRIPTION: Intro to Piano is a fine arts course in which students will learn basic piano techniques, and the introductory stages of reading music notation. The goal of this course is for students to develop proper technique for playing the keyboard. The objectives are to learn basic music vocabulary and theory and gain the ability to play simple pieces of music artistically and expressively.

COURSE: Instrumental Music (Band)

GRADE LEVEL: 9-12

COURSE LENGTH: Year

PREREQUISITES: Students must be able to read music and play an instrument

WEIGHT: 1.0

PIMS: Instrumental Music - 05109

COURSE DESCRIPTION: This course is designed for students who read music and play an instrument that have the desire to continue with instrumental music. Activities include group rehearsals and individual practices/lessons, and participation in concerts/performances.

COURSE: *Vocal Studies*
GRADE LEVEL: 9-12
COURSE LENGTH: Year
PREREQUISITES: None
WEIGHT: 1.0
PIMS: Chorus 05110

A 7–12 Foundational Concert Choir curriculum is designed to focus first on developing healthy vocal technique, breath support, posture, tone production, and ensemble skills while introducing basic music literacy and sight-singing. Students explore a variety of musical styles throughout the year—including patriotic, classical, pop, hip hop, and musical theatre—to build versatility and understanding of different vocal traditions. Instruction also includes a unit on vocal pedagogy so students learn how the voice functions and how to sing safely and effectively. The ensemble prepares for two major performances, a Holiday Concert and a Spring Concert, and may also perform at the high school graduation ceremony. Instruction aligns with the Arts and Humanities standards of the Pennsylvania Department of Education and emphasizes vocal development, ensemble collaboration, musical understanding, and confidence.

SCIENCE

COURSE: *Honors Physical Science*
GRADE LEVEL: 9H
COURSE LENGTH: Year
PREREQUISITES: Teacher recommendation
WEIGHT: 1.135
PIMS: Physical Science - 031592

COURSE DESCRIPTION: *Honors Physical Science is designed to promote a student's understanding of science through application and analysis. A primer for both chemistry and physics, the laboratory-oriented curriculum includes studies of the scientific method, measuring and the metric system, density, states of matter, mixtures and solutions, chemical properties, forces, motion, and simple machines, and electromagnetic spectrum.*

COURSE: *Physical Science*
GRADE LEVEL: 9
COURSE LENGTH: Year
PREREQUISITES: None
WEIGHT: 1.0
PIMS: Physical Science - 031592

COURSE DESCRIPTION: *Physical Science is designed to promote a student's understanding of science through application and analysis. A primer for both chemistry and physics, the laboratory-oriented curriculum includes studies of the scientific method, measuring and the metric system, density, states of matter, mixtures and solutions, chemical properties, forces, motion, and simple machines, and electromagnetic spectrum.*

COURSE: Honors Biology
GRADE LEVEL: 10H
COURSE LENGTH: Year
PREREQUISITES: Physical Science
WEIGHT: 1.135
PIMS: Biology I – B3051

COURSE DESCRIPTION: In this accelerated laboratory-based course students will learn many of the concepts and principles of general biology. Topics include: molecular biology, cell structure and function, genetics, evolution, ecology and a survey of the Kingdoms of life. Students will learn the techniques used in laboratory research, including the use of microscopes and gel electrophoresis equipment. In addition, students will be required to complete research reports in oral and written form. Students who complete this course are encouraged to take the SAT Subject Test in Biology.

COURSE: Biology
GRADE LEVEL: 10
COURSE LENGTH: Year
PREREQUISITES: Physical Science
WEIGHT: 1.0
PIMS: Biology I – B3051

COURSE DESCRIPTION: In course students will learn many of the concepts and principles of general biology. Topics include: molecular biology, cell structure and function, genetics, evolution, ecology and a survey of the Kingdoms of life. Students will learn the techniques used in laboratory research, including the use of microscopes and gel electrophoresis equipment.

COURSE: Human Anatomy & Physiology
GRADE LEVEL: 11/12
COURSE LENGTH: Year
PREREQUISITES: Biology and presently taking or passed Chemistry
WEIGHT: 1.135
PIMS: Biology II - 03052

COURSE DESCRIPTION: This course is designed for the student with an interest in biology or planning to enter a career in healthcare, athletics, science or education. This course will apply the themes of biology to the structures and the functions of the human body. This course is 75% individual learning and 25% lab work.

COURSE: Honors Chemistry
GRADE LEVEL: 11/12H
COURSE LENGTH: Year
PREREQUISITES: Physical Science and Algebra I
WEIGHT: 1.135
PIMS: Chemistry I - 03101

COURSE DESCRIPTION: This course is a laboratory science course designed to fulfill requirements for college entrance. The course surveys inorganic chemistry and includes topics such as atomic structure, the periodic table, chemical bonds, chemical equations, stoichiometry, and solutions. Problem solving and laboratory work are integral parts of this course. Students who complete this course are encouraged to take the SAT Subject Test in Chemistry.

COURSE: Chemistry
GRADE LEVEL: 11/12A
COURSE LENGTH: Year
PREREQUISITES: Physical Science and Algebra I
WEIGHT: 1.1

PIMS: Chemistry I - 03101

COURSE DESCRIPTION: This course is a Laboratory Science course designed to fulfill requirements for college entrance. The course surveys inorganic chemistry and includes topics such as atomic structure, the periodic table, chemical bonds, chemical equations, and stoichiometry. Problem solving and laboratory work are integral parts of this course.

COURSE: Applied Chemistry
GRADE LEVEL: 11/12B
COURSE LENGTH: Year
PREREQUISITES: Algebra I
WEIGHT: 1.0

PIMS: Chemistry Other - 03149

COURSE DESCRIPTION: Applied Chemistry focuses on the general uses of chemistry within the community. Topics of general chemistry such as chemical equations, atomic structure, chemical bonds and acids and bases will be studied. Problem solving and some laboratory work are integral parts of this course.

COURSE: Chemistry 121 (BCCC)
GRADE LEVEL: 12
COURSE LENGTH: Year
PREREQUISITES: Students should have successfully completed a general high school chemistry course and Algebra II.
WEIGHT: 1.175 (4 credits BCCC)
PIMS: 03990

COURSE DESCRIPTION: This Chemistry course provides students with a college-level foundation to support future advanced course work in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore topics such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium. Students will receive 4 college credits from Bucks County Community College.

COURSE: Honors Physics
GRADE LEVEL: 11-12
COURSE LENGTH: Year
PREREQUISITES: Currently taking or passed Chemistry and Algebra II
WEIGHT: 1.135
PIMS: Physics I – B3151

COURSE DESCRIPTION: The Academic Physics course is highly inductive in its approach to the study of Newtonian physics. Emphasis will be placed on the application rather than the

derivation of the formulas of physics. This will be accomplished through a systematic approach to problem solving, laboratory exercise and computer simulations. The course is designed to introduce students to the topics of mechanics (kinematics and dynamics), conservation laws (energy and momentum), quantum mechanics and quantum Electro dynamics (QED) simple harmonic motion, wave motion, light (reflection/refraction), optics (lenses and mirrors), electric circuits (series/parallel).

SOCIAL STUDIES

COURSE: *Honors United States History & Government I*

GRADE LEVEL: *9 Honors*

COURSE LENGTH: *Year*

PREREQUISITES: *Teacher Recommendation*

WEIGHT: *1.135*

PIMS: *US History to Reconstruction – 04102*

COURSE DESCRIPTION: *US History and Government I is a ninth-grade course designed to teach American studies from the pre- Revolutionary period (1750's) up to the Civil War and Reconstruction. The course is chronological with a focus on the development of both the history and the formation of the American government. Concepts covered include the struggle for national unity, equality and freedom. Students also analyze and evaluate the creation and evolution of the American political system as it developed during this time period. In addition to mastery of the content, the course stresses the development of critical thinking skills, student skill in expository and creative writing, critical reading skills, research, and oral presentation. The course provides practice to ensure proficient performance on the Keystone Exams.*

COURSE: *United States History & Government I*

GRADE LEVEL: *9*

COURSE LENGTH: *Year*

PREREQUISITES: *Teacher Recommendation*

WEIGHT: *1.0*

PIMS: *US History to Reconstruction – 04102*

COURSE DESCRIPTION: *US History and Government I is a ninth-grade course designed to teach American studies from the pre- Revolutionary period (1750's) up to the Civil War and Reconstruction. The course is chronological with a focus on the development of both the history and the formation of the American government. Concepts covered include the struggle for national unity, equality and freedom. Students also analyze and evaluate the creation and evolution of the American political system as it developed during this time period. In addition to mastery of the content, the course stresses the development of critical thinking skills, student skill in organization and note-making expository and creative writing, critical reading skills, research, and oral presentation.*

COURSE: Honors United States History and Government II

GRADE LEVEL: 10 Honors

COURSE LENGTH: Year

PREREQUISITES: Teacher recommendation

WEIGHT: 1.135

PIMS: US History Other - 04149

COURSE DESCRIPTION: This course is designed to teach American history through the context of the US Constitution and American literature from the beginning of the 20th Century up to the present day. The course is chronological with a focus on a number of universal themes and constitutional issues as they develop throughout modern American history and are reflected in a myriad of American written works. Students will not only develop knowledge and comprehension of people, literature, and events key to understanding the 20th century, but will also develop skills in interpreting the impact people and events had on the nation's social, economic, governmental, and political development. Students will also develop skills in research, creative writing, creative analysis, research, presentation, and argumentation.

COURSE: United States History & Government II

GRADE LEVEL: 10

COURSE LENGTH: Year

PREREQUISITES: US History & Government I

WEIGHT: 1.0

PIMS: US History Other - 04149

COURSE DESCRIPTION: This course is designed to teach American studies from the beginning of the 20th Century up to the present day. The course is chronological with a focus on the development of both the history and American government. The course traces a number of universal themes and constitutional issues as they develop throughout the historical periods studied. Students will not only develop knowledge and comprehension of people and events of each period, but will also develop skills in interpreting the impact people and events had on the nation's social, economic, governmental, and political development. Students will also develop skills in research, creative writing, and oral presentation.

COURSE: European History

GRADE LEVEL: 11

COURSE LENGTH: Year

PREREQUISITES: Successfully completed US History and Government I and II

WEIGHT: 1.0

PIMS: 04055

COURSE DESCRIPTION: European History focuses on developing students' understanding of European history from approximately 1450 to the Present. The course has students investigate the content of European history for significant events, individuals, developments, and processes in four historical periods. The course also provides five themes (interaction of Europe and the world, poverty and prosperity, objective knowledge and subjective visions, states and other institutions of power, and individual and society) that the students explore throughout the course in order to make connections among historical developments in different times and places.

COURSE: *Advanced Placement European History*

GRADE LEVEL: 11 or 12

COURSE LENGTH: Year

PREREQUISITES: *Students who register for this course should carry and “A” average in English and should have successfully completed ninth and tenth grade American Culture courses with an “A” average. They must be recommended by teachers and guidance counselor.*

WEIGHT: 1.175

PIMS: *AP History (European) - 04056*

COURSE DESCRIPTION: *The AP European History course focuses on developing students’ understanding of European history from approximately 1450 to the Present. The course has students investigate the content of European history for significant events, individuals, developments, and processes in four historical periods, and develop and use the same thinking skills and methods employed by historians when they study the past. The course also provides five themes (interaction of Europe and the world, poverty and prosperity, objective knowledge and subjective visions, states and other institutions of power, and individual and society) that the students explore throughout the course in order to make connections among historical developments in different times and places. **Taking the Advanced Placement test is required.***

12th GRADE SOCIAL STUDIES COURSES

COURSE: *History Through Film I: Selected Topics in US History*

GRADE LEVEL: 12

COURSE LENGTH: Year

PREREQUISITES: *US History & Government I, II*

WEIGHT: 1.0

PIMS: 04099

COURSE DESCRIPTION: *This course examines Hollywood feature films and historical dramas as historical evidence. Students view movies and documentaries on various US history topics and participate in Socratic seminar discussions, complete research packets and write essays comparing that film evidence to information in more traditional sources, such as articles, film reviews and critical commentaries. The student’s task is to separate fantasy from fact. A major goal of this course is determining what is valid in contemporary films and historical dramas and what do these films say about the people who create them, the politics behind their creation, and how they reflect the values, ideas, and larger historical issues of the times in which they were created. Students will also determine if the story presented accurately depicts actual events. Films will cover the time periods of 1754-2000’s.*

COURSE: *Introduction to Economics & Global Trade Relations*

GRADE LEVEL: 12

COURSE LENGTH: Year

PREREQUISITES: None

WEIGHT: 1.0

PIMS: 04990

COURSE DESCRIPTION: *The first semester will introduce students to the basic concepts of economics, through the stock market game while studying economic theories, taxation and personal finance. The second semester will focus on international economic concepts, systems and relations. The course is designed so that students are able to analyze decision-making and the interactions between individuals, households, businesses, governments, and societies.*

COURSE: Modern World Cultures

GRADE LEVEL: 12

COURSE LENGTH: Year

PREREQUISITES: US History I & II

WEIGHT: 1.0

PIMS:

COURSE DESCRIPTION: This elective course examines global and regional issues affecting the international relations that connect the United States and the world. The cultural background and historical social, political, economic, religious, or modernization causes that have led to regional issues in Africa, the Middle East, East Asia, South Asia, Europe, and Latin America will be examined through instruction, research, discussion, and debate. Each cultural area will include a brief historical review followed by an analysis of the major countries and events that have shaped the modern world. Problem solving, conflict resolution, consensus building, diplomacy, debate, and public speaking will be utilized throughout the course, especially through active participation in United Nations simulations.

Course: Hist. 151 US History: Young America (BCCC)

Grade Level: 12/College

Course Length: 1 Semester

Pre-requisites: Passes AP Euro or had an average of 90 or better in Euro A

Weight: 1.175 & 3 Credits BCCC

PIMS: 04149

COURSE DESCRIPTION: This course explores U.S. History from European colonization until the end of the Civil War. Students critically examine the social, cultural, economic, and political dynamics of America's agrarian age. Students will be able to: demonstrate an understanding of U.S. history, and the relationships and conflicts between the diverse peoples of North America, from the colonial era to the end of the Civil War [Diversity]; critically analyze and evaluate competing points of view and voices in early American history [Critical Thinking]; demonstrate an understanding of the social and political systems, economies, and cultures of the various African, European, and Native American societies, from the colonial era to the end of the Civil War [Arts/Humanities]; identify the major reasons for the start and later victory of the American Revolution; describe the rise of the United States as a nation domestically and internationally during the Antebellum Period; demonstrate an understanding of the reasons for and process of American expansion during the Antebellum Period and its impact on American society, culture, and politics; and identify the causes and course of the American Civil War. *Note: You must get a B or higher to earn college credit

Course: Hist. 152 US History: Modern America (BCCC)

Grade Level: 12/College

Course Length: 1 Semester

Pre-requisites: Passes AP Euro or had an average of 90 or better in Euro A

Weight: 1.175 & 3 Credits BCCC

COURSE DESCRIPTION: Students explore America's transformation into an industrial and global power since the Reconstruction era. Topics critically examined include: immigration, modernization, struggles for race, class, gender, and sexual equality, nationalism, world war, and broad social, economic, and cultural change. Students will be able to: demonstrate an understanding of the history of the United States, and the relationships and conflicts between diverse Americans, from the Reconstruction era to the beginning of the twenty-first century; critically analyze and evaluate competing points of view and voices in modern American history

*[Critical Thinking]; identify events, politics, social systems, economic arrangements, and ideologies that set the framework for modern race relations in the U.S. [Diversity]; examine the Reconstruction Era's broad effects in setting the framework American politics, economics, and social systems in the 20th century; identify the major intellectual, technological, and cultural developments of the Progressive Era and World War I [Arts/Humanities]; demonstrate an understanding of intellectual and cultural history of the Roaring 20s and the Great Depression [Arts/Humanities]; and demonstrate an understanding of the WW II home front and warfront; and demonstrate an understanding of the cold war and post-cold war periods. *Note: You must get a B or higher to earn college credit.*

SOCIAL STUDIES ELECTIVES

COURSE: International Culinary and Civics

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS:

COURSE DESCRIPTION: Students will learn about the history of global trade and colonization in addition to basic economics. Looking at how food is grown and issues around small-scale versus large scale agricultures is just one of many links to other disciplines. Sourcing ingredients provides options for mapping and geographic learning, sharing personal food cultures allow students to better understand and appreciate the diversity of their own community.

COURSE: International Current Events

GRADE LEVEL: 9-12

COURSE LENGTH: Year

PREREQUISITES: None

WEIGHT: 1.0

PIMS: 04064

COURSE DESCRIPTION: This course is an exploratory class where we will do a daily examination of news from a multitude of sources. We will determine significant events and compare the historical perspectives to news and crucial world events. The class will define and learn about prominent and ever-changing national social groups and leaders along with other news-making countries from around the world. Students will raise questions for discussion and use those mediums of communication to compare and debate critical issues of our country and beyond. Students will acquire the knowledge and skills to gather, analyze and apply information and idea to communicate effectively, recognize and problem solve, and form responsible decisions as members of society.

Course: *International Foods and Culture*

Grade Level: 10-12

Course Length: Semester

Prerequisite: *Food for Thought*

Weight: 1.0

PIMS: 22202

COURSE DESCRIPTION: “Travel” around the world to learn about a culture and its food. Project based. Peer cooperation required. Prepare & taste a variety of foods from each culture studied. The course has included cuisine from India, Africa (Southern & Northern), Europe (Southern, Western, Northern & Eastern), South America, the Caribbean & Asia (China & Japan).

COURSE: *World Geography*

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS:

COURSE DESCRIPTION: This course offers insights into the world’s varying nations and cultures and also illuminates the impact of our planet’s climate and geography on regional society. Dive deep into how Earth’s unique geographic features and active processes shape human behavior, culture and economies across the landscape. Students are empowered to see the world through an interconnected lens.

STEM ELECTIVES

COURSE: *Environmental Science*

GRADE LEVEL: 9-12

COURSE LENGTH: Semester

PREREQUISITES: None

WEIGHT: 1.0

PIMS:

COURSE DESCRIPTION: Environmental Science is the study of the interactions between the physical, chemical, and biological components of the Earth’s natural environment. These components include energy, agriculture, water, and air. This course closely examines the human impact on the environment. Students develop an understanding of their role in environmental management through hands-on activities based on topics such as ecosystems, biochemical cycles, and natural resources. Students will be able to discuss and study a variety of concepts and examine problems from many different perspectives.

COURSE: Forensic Science
GRADE LEVEL: 9-12
COURSE LENGTH: Semester
PREREQUISITES: None
WEIGHT: 1.0
PIMS:

COURSE DESCRIPTION: Forensic Science is the application of science (chemistry, physics, and biology) to the criminal and civil laws that are enforced by police agencies in a criminal justice system. It includes the investigation of fingerprinting, fiber analysis, ballistics, arson, trace evidence analysis, poisons, drugs, blood spatters, and blood samples. Students are taught the proper collection, preservation, and laboratory analysis of various samples.

COURSE: Introduction to Physical Computing
GRADE LEVEL: 10-12
COURSE LENGTH: Semester
PREREQUISITES: Currently taking or passed Geometry
WEIGHT: 1.0

PIMS: Principles of Engineering - 21004
COURSE DESCRIPTION: This course introduces students to basic programming concepts (control structures, variables, functions, etc.) in order to control a physical device. Students will perform basic physical tasks using LEDs, motors, and sensors to see how computer programming gives physical devices the ability to interact with their environment.

COURSE: Intro to Robotics-CSP
GRADE LEVEL: 9-12
COURSE LENGTH: Semester
PREREQUISITES: None
WEIGHT: 1.0

PIMS:
COURSE DESCRIPTION: Introduction to Robotics-CSP introduces students to core concepts in robotics and computer science through hands-on projects with Sphero Bolt robots and DJI Tello drones. Students learn block-based programming and advance to text-based coding in JavaScript and Python. The course emphasizes problem-solving, the engineering design process, and real-world applications to prepare students for careers in STEM fields such as robotics and software development

COURSE: 21st Century Production
GRADE LEVEL: 10-12
COURSE LENGTH: Semester
PREREQUISITES: None
WEIGHT: 1.0

COURSE DESCRIPTION: This is a project-based course that covers product design, production, and manufacturing. The cornerstone is a project in which students create teams to complete management, engineering, and design tasks where the groups conceive, design and produce a physical product. Class sessions are conducted in workshop mode and employ hands-on activities to reinforce key ideas.