Brentwood High School

2022 – 2023

Course Description Handbook

This handbook includes general information and course descriptions that outline the curriculum offerings at Brentwood High School. Use it as a guide, along with the help and advice of your counselors, teachers, and family, to plan an appropriate program of studies for the coming year.

Graduation Requirements

Students must compile a minimum of twenty-five (25) credits in order to graduate from high school. These credits are to be acquired in grades 9 through 12.

Courses required by the Brentwood Borough School District are as follows:

four (4) credits in English

four (4) credits in mathematics AND (3) credits in science

OR

four (4) credits in science AND (3) credits in mathematics

four (4) credits in social studies

two (2) credits in arts and humanities

one (1) credit in health and physical education
(Physical education must be taken each year)

six (6) elective credits

one (1) credit Graduation Project

Credits earned in the ninth grade are counted toward graduation from high school. However, some eighth grade subjects may be offered to satisfy entrance requirements to certain colleges and universities.

Honors Program

Brentwood High School provides Advanced Placement (AP) courses in Calculus, Computer Science, English, European History, German, Physics, Spanish, Statistics and United States History and honors level courses in Art, Band, English, Foreign Language, Mathematics, Science, Technology Education and United States History. In contrast to the regular high school courses, these programs offer extended content and additional workload.

Summer School

Students who do not pass one or more required courses are encouraged to attend summer school to make up the lost credit(s). Information regarding accredited summer schools in our area may be obtained in the Guidance Office in late April or May.

Summer School Grades

Grades for repeated courses are placed on the transcript AND are used in the G.P.A. as well as the earned grade for the original course. They do not replace the original grade already on the transcript. For athletic eligibility purposes, the actual summer school grade will be placed in the fourth nine weeks and averaged accordingly.

Grading Scale

	Grading Scale	Honors Level Quality Points	AP Level Quality Points
A (4 quality points) =	90-100	4.5	5.0
B (3 quality points) =	80-89	3.5	4.0
C (2 quality points) =	70-79	2.5	3.0
D (1 quality point) =	60-69	1.5	2.0
E (0 quality points) =	0-60	0.0	0.0

Dropping a Class

Students have 20 school days at the beginning of the school year for first semester and yearlong classes, as well as the first 20 school days for 2nd semester classes to make an appropriate decision about dropping a class without penalty. If a student drops a class after the 20-day established deadline, but before the end of the respective 9 week grading period, a "Withdraw Pass" or a "Withdraw Fail" will be noted on the permanent grade record. Classes dropped after the end of the first grading period for 1st semester or yearlong courses (or third grading period for 2nd semester classes) will be noted as "Withdraw Fail" and will count as a credit attempted, therefore affecting the student's grade point average.

Academic Eligibility

Please refer to the ELIGIBILITY and CURRICULUM AND ACADEMIC ELIGIBILITY sections of the Athletic Handbook.

Career Readiness

The Career Readiness course works in conjunction with the required 9th grade Career Planning and Life Management course. The Career Readiness course provides job shadow opportunities to assist students in meeting the Career Education and Work (CEW) Standards, a part of the State Board of Education's regulations of required education for all students in Pennsylvania. Students will earn a grade of pass/fail for this course. In order to earn a passing grade, during 9th, 10th, and 11th grades, students must complete three job shadows in a career area of interest and produce eight artifacts as proof that the student has met the CEW Standards. Each job shadow must be three hours in length. Students may take part in a job shadow that is offered through this course, or they have the option to complete an Independent Job Site Visit or Independent Phone or Virtual Job Shadow. This course offers many opportunities for job shadows, but it is the student's responsibility to complete the course assignments, register for the opportunities, complete the job shadows, and complete a final survey on Naviance as evidence to be included in the student's Career Portfolio. Through this course and the Career Planning and Life Management Course, the student must produce eight artifacts in the following four areas of knowledge: Career Awareness and Preparation, Career Acquisition (Getting a Job), Career Retention and Advancement, and Entrepreneurship. Students have until the end of their Junior year to complete these graduation requirements.

Graduation Project

All students must complete a Graduation Project. The Graduation Project is worth one (1) credit and will be assessed as pass or fail. The graduation project WILL NOT HAVE AN IMPACT ON THE CUMULATIVE GRADE POINT AVERAGE.

Keystone Assessments

The Keystone Exams are the end-of-course assessments from the Pennsylvania Department of Education designed to assess proficiency in the subject areas of Algebra I, Literature, and Biology. Students enrolled in Algebra I, Biology I, Biology I Honors, and English 10 Academic & Honors will take the corresponding Keystone Exam in the spring. Students who did not score proficient will be offered a Keystone practicum course for remediation purposes and will retest during the next wave of assessments.

GRADE 9

REQUIRED COURSES

English – 1 credit
American Government and PA History – 1 credit
Mathematics – 1 credit
Science – 1 credit
Physical Education – ½ credit
Electives – 2 ½ credits

COURSES		CREDIT
English/Communications	English 9	1
	English 9 Honors	1
Family & Consumer Science	Career Planning/Life Management	½
Fine Arts	Art 9	½
	Band	1
	Jazz Band	1
	Chorus	1
Foreign Language	German	1
	Spanish	1
Mathematics	Algebra I	1
	Algebra II	1
	Algebra II Honors	1
	Foundations of Algebra	1
	Geometry	1
	Geometry Honors	1
	CS Discoveries III**	½
Science	Science 9	1
	Biology I	1
	Biology I Honors	1
Social Studies	American Government & PA History	1
Technology Education	IML 9	½
	TED 9	½
Physical Education	Fitness/Nutrition/Weight Lifting	½
	Competitive Sports	½

**This course does not satisfy the math requirement.

Career Readiness requirement: Students will attend a Post High School Career Planning meeting with their parent/guardian and the high school counselor/Career Readiness Coordinator during the summer prior to their 10th grade year. Each student must complete 3 (3-hour) job shadows and produce 8 artifacts before the end of their junior year.

Graduation Project requirement: A one-credit graduation project must be completed prior to graduation.

GRADE 10

REQUIRED COURSES

English – 1 credit
World History – 1 credit
Mathematics – l credit
Science – 1 credit
Physical Education – ½ credit
Electives – 2 ½ credits

COURSES		CREDIT
Business Education	Accounting I	1
	Personal Finance	½
English/Communications	English 10	1
	English 10 Honors	1
	Digital Media**	½
	Graphic Design I**	½
	Graphic Design II**	½
	Photography and Design**	½
	Yearbook**	1

**These courses do not satisfy the English requirement.

Family & Consumer Sciences	Foods & Nutrition I	½
	Foods & Nutrition II	½
Fine Arts	General Art	½
	Introduction to Painting	½
	Band	1
	Jazz Band	1
	Chorus	1
Foreign Languages	German	1
	Spanish	1
Mathematics	Algebra I	1
	Algebra II	1
	Algebra II Honors	1
	Geometry	1
	Geometry Honors	1
	CS Discoveries III**	½
	AP Computer Science Principles**	1
	CS Academy - CS1**	½

**These courses do not satisfy the math requirement.

Science	Biology I	1
	Biology I Honors	1
	Chemical Concepts	1

	Chemistry I	1
	Chemistry I Honors	1
Social Studies	World History	1
	AP World History	1
	Contemporary Issues**	½

**This course does not satisfy the social studies requirement.

Technology Education	Manufacturing, Design and Prototyping	½
	Production, Materials and Manufacturing	½
	Introduction to Woodworking	½
	Product Fabrication and Design	½
	Battle Bots for Competition	1
	Toys for Tots Manufacturing	½
	TED Mechanical	½
	TED Civil	½
	Steel Center Vocational Technical School	3
Health/Physical Education	Health and Wellness	½
	Fitness/Nutrition/Weight Lifting	½
	Competitive Sports	½

Career Readiness requirement: Students will attend a Post High School Career Planning meeting with their parent/guardian and the high school counselor/Career Readiness Coordinator during the summer prior to their 10th grade year. Each student must complete 3 (3-hour) job shadows and produce 8 artifacts before the end of their junior year.

Graduation Project requirement: A one-credit graduation project must be completed prior to graduation.

GRADE 11

REQUIRED COURSES

English – 1 credit
United States History – 1 credit
Mathematics – 1 credit
Science – 1 credit
Physical Education – ½ credit
Electives – 2 ½ credits

COURSES		CREDIT
Business Education	Accounting I	1
	Accounting II	1
	Personal Finance	½
English/Communications	English 11	1
	AP English Language and Composition	1
	Digital Media**	½
	Graphic Design I**	½
	Graphic Design II**	½
	Photography and Design**	½
	Yearbook**	1
Family & Consumer Sciences	Foods & Nutrition I	½
	Foods & Nutrition II	½
Fine Arts	General Art	½
	Introduction to Painting	½
	Portraits and Illustration	½
	Jewelry and Fibers	½
	Band	1
	Band Honors	1
	Jazz Band	1
	Chorus	1
	Chorus Honors	1
Foreign Languages	German	1
	Spanish	1
Mathematics	Algebra II	1
	Algebra II Honors	1
	Geometry	1
	Geometry Honors	1
	Mathematical Principles & Applications	1
	Trigonometry and Precalculus	1
	Trigonometry and Precalculus Honors	1
	AP Calculus AB	1

**These courses do not satisfy the English requirement.

	AP Statistics	1
	CS Discoveries III**	½
	AP Computer Science Principles**	1
	CS Academy - CS1**	½

**These courses do not satisfy the math requirement.

Science	Chemical Concepts	1
	Chemistry I	1
	Chemistry I Honors	1
	Physical Science	1
	Physics	1
	AP Physics 1	1
Social Studies	United States History	1
	Unites States History Honors	1
	AP United States History	1
	Contemporary Issues**	½

**This course does not satisfy the social studies requirement.

Technology Education	Manufacturing, Design and Prototyping	½
	Production, Materials and Manufacturing	½
	Introduction to Woodworking	½
	Product Fabrication and Design	½
	Battle Bots for Competition	1
	Toys for Tots Manufacturing	½
	TED Mechanical	½
	TED Civil	½
	TED Electrical	½
	TED Industrial	½
	TED Honors	1
	Steel Center Vocational Technical School	3
Health/Physical Education	Health and Wellness	½
	Fitness/Nutrition/Weight Lifting	½
	Competitive Sports	½

Career Readiness requirement: Each student must complete 3 (3-hour) job shadows and produce 8 artifacts before the end of their junior year.

Graduation Project requirement: A one-credit graduation project must be completed prior to graduation.

GRADE 12

REQUIRED COURSES

English – 1 credit
Social Studies – 1 credit
Mathematics – 1 credit
Science – 1 credit
Physical Education – ½ credit
Electives – 2 ½ credits

ELECTIVE COURSES		**CREDIT**
Business Education	Accounting I	1
	Accounting II	1
	Personal Finance	½
English/Communications	English 12	1
	AP English Language and Composition	1
	AP English Literature and Composition	1
	Digital Media**	½
	Graphic Design I**	½
	Graphic Design II**	½
	Photography and Design**	½
	Yearbook**	1
Family & Consumer Sciences	Foods & Nutrition I	½
	Foods & Nutrition II	½
Fine Arts	General Art	½
	Introduction to Painting	½
	Portraits and Illustration	½
	Jewelry and Fibers	½
	Art III	1
	Art Honors	1
	Band	1
	Band Honors	1
	Jazz Band	1
	Chorus	1
	Chorus Honors	1
Foreign Languages	German	1
	Spanish	1
Mathematics	Algebra II	1
	Algebra II Honors	1
	Geometry	1
	Geometry Honors	1
	Mathematical Principles & Applications	1

**These courses do not satisfy the English requirement.

	Trigonometry and Precalculus	1
	Trigonometry and Precalculus Honors	1
	AP Calculus AB	1
	AP Calculus BC	1
	AP Statistics	1
	CS Discoveries III**	½
	AP Computer Science Principles**	1
	CS Academy - CS1**	½

**These courses do not satisfy the math requirement.

Science	Biology II	1
	Chemistry II Honors	1
	Physical Science	1
	Physics	1
	AP Physics 1	1
	AP Physics C: Mechanics	1
Social Studies	AP European History	1
	American Law	½
	Economics	½
	Sociology	½
	Psychology	½
	Contemporary Issues**	½

**This course does not satisfy the social studies requirement.

Technology Education	Manufacturing, Design and Prototyping	½
	Production, Materials and Manufacturing	½
	Introduction to Woodworking	½
	Product Fabrication and Design	½
	Battle Bots for Competition	1
	Toys for Tots Manufacturing	½
	TED Mechanical	½
	TED Civil	½
	TED Electrical	½
	TED Industrial	½
	TED Honors	1
	Steel Center Vocational Technical School	3
Health/Physical Education	Health and Wellness	½
	Fitness/Nutrition/Weight Lifting	½
	Competitive Sports	½

Graduation Project requirement: A one-credit graduation project must be completed prior to graduation.

Course Descriptions

BUSINESS EDUCATION

ACCOUNTING I
(Full-year course - 1 credit)

Accounting I is an elective course intended to provide a solid foundation for students with various career objectives. Some students seek preparation for entry-level accounting jobs. Others look forward to careers in related business fields for which knowledge of some accounting is needed. Some students seek a foundation on which to continue studying business and accounting at the collegiate level. The complete accounting cycle in its simplest form is presented, and students learn the basic procedures used to operate a business. Using online software, students perform accounting tasks for service businesses organized as proprietorships and for merchandising businesses organized as partnerships. Additionally, students also learn to automate the complete accounting cycle.

Criteria for selection-

1. Elective course with no prerequisite
2. Recommended for students in grades 10 through 12

ACCOUNTING II
(Full-year course - 1 credit)

Accounting II is an elective course intended for students with determined career objectives in the field of business or in the accounting profession. This second-year course is designed for students who want: (1) to become accounting clerks upon graduation from high school; (2) to obtain the accounting skills necessary to advance to the level of bookkeeper following experience as an accounting clerk; (3) to go on to college and major in accounting or some phase of business; or (4) to broaden and improve their knowledge, understanding, and application of accounting principles. At this level, the complete accounting cycle is mastered, and students learn more advanced, complex accounting principles. Using online software, students perform accounting tasks for merchandising businesses organized as partnerships and corporations. Additionally, students complete two automated simulations.

Criteria for selection-

1. Final Grade of B or better in Accounting I course
2. Recommendation of Accounting I teacher

PERSONAL FINANCE
(Semester course - ½ credit)

Personal Finance is an elective course designed for students to learn how to plan and manage their personal finances to live a financially successful life. Students enrolled in the course will be exposed to information, tips, and modules that help enhance their understanding of how making good financial decisions will affect them now and in the future. Topics discussed include but are not limited to income choices, jobs, careers, & skills, spending, inflation, saving, investing, managing credit, managing risk, taxes, planning for post-secondary costs, & budgeting.

Criteria for selection-

1. Elective course with no prerequisite

ENGLISH / COMMUNICATIONS

ENGLISH 9
(Full-year course – 1 credit)

Focused on the PA Core Standards, students in this course will read, analyze and respond to both fiction and nonfiction texts, work with daily grammar practice (DGP), and study academic vocabulary. The course curriculum will focus on developing analytical skills related to both fiction and nonfiction texts and responding to the readings with evidence-based writing. Language skills are addressed through DGP and vocabulary instruction and are incorporated into all writing assignments. Course work will involve weekly DGP quizzes, comprehension and analytical activities for all readings, as well as critical and personal written responses to the literature. Research skills will be developed through the completion of an argumentative research paper.

Criteria for selection-

1. All students are required to take a ninth grade English course

ENGLISH 9 HONORS
(Full-year course – 1 credit)

Focused on the PA Core Standards, students in this course will read, analyze and respond to both fiction and nonfiction texts, work with daily grammar practice (DGP), and study academic vocabulary. Students in this course are expected to have a strong background in reading comprehension and writing skills and possess the ability to complete extensive independent reading and writing assignments outside the classroom, including a summer reading assignment. The course curriculum will focus on developing analytical skills related to both fiction and nonfiction texts and responding to the readings with evidence-based writing. Language skills are addressed through DGP and vocabulary instruction and are incorporated into all writing

assignments. Course work will involve weekly DGP quizzes, comprehension and analytical activities for all readings, as well as critical and personal written responses to the literature. Research skills will be developed through the completion of an argumentative research paper as well as smaller research units designed around the novel read for class.

Criteria for selection-

1. Final grade of A or B in English 8
2. Teacher recommendation

ENGLISH 10
(Full-year course – 1 credit)

The 10th grade English curriculum is designed to emphasize the major facets of English education: grammar, composition, vocabulary, literature, and public speaking. Coursework will include daily grammar practice (DGP) and applying these grammar rules to both the written and spoken word. Additional coursework consists of reading fiction, non-fiction, poetry, and one Shakespearean drama. Assignments are specifically designed around the PA Common Core Standards with the ultimate goal of students receiving a score of Proficient or Advanced on the Keystone exam administered at the end of the course in May.

Criteria for selection-

1. All students are required to take a tenth grade English course

ENGLISH 10 HONORS
(Full-year course – 1 credit)

This course is designed for students who are highly motivated and want to prepare for the demands of college by completing this rigorous, fast-paced course. The 10th grade Honors English curriculum is designed to emphasize the major facets of English education: grammar, composition, vocabulary, literature, and public speaking. Coursework will include daily grammar practice (DGP) and applying these grammar rules to both the written and spoken word. Additional coursework consists of reading fiction, non-fiction, poetry, and one Shakespearean drama, which are explicitly chosen for the Honors student. Students are expected to complete reading independently and outside of class. Therefore, this course requires completion of a summer reading assignment. Assignments are specifically designed around the PA Common Core Standards with the ultimate goal of students receiving a score of Proficient or Advanced on the Keystone exam administered at the end of the course in May.

Criteria for selection-

1. Final grade of A or B in English 9 or English 9 Honors
2. Teacher recommendation

ENGLISH 11
(Full-year course – 1 credit)

Eleventh grade English provides a chronological survey of American literature from pre-colonial times through the modern era so that students will gain further insight into literary analysis directly within the contexts of American history. In addition, vocabulary, grammar, reading of various genres, and writing instruction will be integrated into the students' assignments, which

will align with the Common Core standards. These are skills that they will also need to succeed on the various college entrance tests. Students must also complete a structured MLA-based project, which is designed to introduce the steps of the research process such as data collection, organization, compiling a Works Cited page, drafting, revising, and publishing a paper. All aspects of these strategies will be incorporated into the classroom instruction so that students will learn to write an effective paper in preparation for post-secondary education.

Criteria for selection-

1. All students are required to take an eleventh grade English course

ADVANCED PLACEMENT ENGLISH LANGUAGE AND COMPOSITION
(Full-year course – 1 credit)

The AP English Language and Composition course aligns to an introductory college-level rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods. The course is considered college-level and students should expect to read challenging texts that address varied audiences for varied purposes. This yearlong course prepares students for the AP Language and Composition exam administered in May. A required summer assignment is due to the high school office by July 31. Failure to complete and submit the assignment by this date will result in removal from the course roster.

Criteria for selection-
1. Final grade of A or B in English 9 Honors and English 10 Honors
2. Teacher recommendation

ENGLISH 12
(Full-year course – 1 credit)

English 12 is the fourth of four courses aligned to the PA Common Core Standards for English and Language Arts to satisfy Brentwood High School graduation requirements in the English sequence. English 12 requires students continue to analyze increasingly complex informational texts and works of literature with an emphasis on comprehension, vocabulary acquisition, and making connections among ideas and between texts. Students complete a research-based project, conducting research while considering the credibility, reliability, and validity of sources. Core curricular components include *Beowulf, The Canterbury Tales, Sir Gawain and the Green Knight*, Shakespeare's *Macbeth* and *A Midsummer Night's Dream*, Shelley's *Frankenstein,* Swift's *A Modest Proposal* and Austen's *Pride and Prejudice.*

Criteria for selection-

1. All students are required to take a twelfth grade English course

ADVANCED PLACEMENT ENGLISH LITERATURE AND COMPOSITION
(Full-year course – 1 credit)

AP English Literature and Composition engages students in the careful reading and critical analysis of imaginative literature. Through independent, close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students consider a work's structure, style, and theme as well as such smaller-scale elements as the use of figurative language, imagery, symbolism, and syntax. This reading necessarily builds upon the reading done in previous English courses, including the study of representative works from various genres and periods and concentrating on works of recognized literary merit. The pieces, from Shakespeare's *Macbeth* and *Much Ado about Nothing* to Ellison's *Invisible Man* or Faulkner's *As I Lay Dying*, from Rossetti's "Goblin Market" or Eliot's "The Wasteland," all invite and reward rereading and do not, like ephemeral works in such popular genres as detective or romance fiction, yield all (or nearly all) of their pleasures of thought and feeling the first time through.

The College Board AP Exams are the culminating assessment in all AP courses and sitting for the AP Literature and Composition exam is expected.

Criteria for selection-

1. Final grade of A or B in English 9 Honors, English 10 Honors, and English 11 Honors
2. Teacher recommendation
3. Departmental approval

ESL I
(Full-year course – 1 credit)

ESL I is offered to students qualifying for English as a second language instruction based off their ACCESS Screener or ACCESS WIDA exam. This course teaches the foundations of the English language, and consists of two periods of class daily. Students will work on common English phrases that will assist them with daily life in the U.S.A.; as well as build reading, writing, and speaking skills. Instruction is provided in English with accommodated materials that meet the needs of each leaner. ESL I students are expected to communicate their basic needs, personal information, follow multiple step verbal instructions, create grammatically correct simple sentences, and read at an early elementary level in English by the end of the year.

ESL II
(Full-year course – 1 credit)

ESL II is offered to students qualifying for English as a second language instruction based off their ACCESS Screener or ACCESS WIDA exam. Students must score at the "Developing" or higher level to be eligible for this course. This course teaches an English language arts curriculum with modifications that are meant to assist English language learners meet their grade level English language arts expectations. Students are expected to read grade level text with comprehension and fluency, apply grammar and mechanic rules in their writing, and speak using a robust English vocabulary to discuss a wide range of subjects. Students can expect to complete a variety of writing and reading assignments which connect to their grade level ELA standards.

DIGITAL MEDIA
(Semester course – ½ credit)

This class is a media and broadcasting class designed to provide students with a groundwork in various forms of media, including writing, videography, broadcasting, and public speaking. This course will have two focuses. The first is to develop the skills necessary to run a news broadcast and will cover topics such as interviewing, videography, photography, and familiarity with U.S. and world news. The second is to use editing software Adobe Premiere. Students will act as television journalists reporting on new happening in the district, community, Pittsburgh and U.S./world. Their work will be presented daily to the student body via a TV broadcast of the morning announcements which will be viewed throughout the middle/high school.

Criteria for selection-

1. Elective course with no prerequisite

GRAPHIC DESIGN I
(Semester course – ½ credit)

Graphic Design introduces students to digital art and technology. In this class students will use design as a creative process in communication. Students will also explore various methods used to create and combine words, symbols, and images to create a visual representation of ideas and messages. Students will use the basic elements and principles of art and also learn how to use the computer program Adobe Photoshop.

Criteria for selection-

1. Elective course with no prerequisite

GRAPHIC DESIGN II
(Semester course – ½ credit)

Graphic Design II builds on the skills learned in Graphic Design I. The course will provide students the opportunity to create complex graphic design using Adobe Photoshop as well as incorporate Adobe Illustrator into their design process. This course develops and refines creative skills used in business and advertising. Training in multiple art skills includes package design, poster design, typography, layout, composition, color theory, and corporate and personal logotypes. Students learn to present graphic designs in a professional manner.

Criteria for selection-

1. Successful completion of Graphic Design I

PHOTOGRAPHY AND DESIGN
(Semester course – ½ credit)

Photography and Design will introduce students to the fundamentals of digital photography and utilize their original photography to create digital photo illustrations. Four areas of instruction will be emphasized: How cameras work, how composition works, how lighting works, and how

to use photo editing software. Once students have a solid understanding of photography, they will be introduced to the fundamentals of Adobe Photoshop to enable them to apply graphic design elements to their original photography.

Criteria for selection-

1. Elective course with no prerequisite

YEARBOOK
(Full-year course – 1 credit)

Yearbook is a multimedia course designed for students to understand the complex and ever-changing role of the journalist in today's society. While serving as staff members and editors for the school's yearbook, The Anthem, students in this course, will discuss the legal aspects of publication, develop their interviewing, pre-writing, revising and copyediting skills. Students will learn how to journalistic style and become familiar with the AP Stylebook as they write effective headlines, cut lines, captions. Students will also learn the fundamentals of layout/design techniques, basic photography and graphic design, using Adobe Photoshop, as they create layout pages for The Anthem, the high school yearbook.

Criteria for selection-

1. Elective course with no prerequisite

FAMILY & CONSUMER SCIENCES

CAREER PLANNING & LIFE MANAGEMENT
(Semester course - ½ credit)

The Career Planning and Life Management semester course provides students the opportunity to plan and prepare for postsecondary success. Students will identify academic and career goals and create a four-year pathway towards those areas. Students will also explore topics such as stress management, conflict resolution, budgeting, independent living, and relationships. After completion of the course, students will have a four-year academic plan along with an understanding of tools and strategies that will help them accomplish the goals within the plan.

Criteria for selection-

1. Elective course with no prerequisite

FOODS & NUTRITION I
(Semester course - ½ credit)

This course is designed to enable students to prepare appetizing & nutritious meals. Emphasis is placed on food preparation, with frequent and varied cooking laboratory experiences. Food preparation principles are studied and applied to diverse food topics. The nutritional content of food is studied for students to make informed choices for a healthy lifestyle.

Criteria for selection-

1. Elective course with no prerequisite

FOODS & NUTRITION II
(Semester course - ½ credit)

This course is designed for students to continue to develop skills learned in Foods & Nutrition I. Emphasis is placed on higher levels of food preparation with a wide variety of cooking laboratory experiences. Food preparation principles are studied and applied to diverse food topics. The nutritional content of food will be studied and applied to laboratory experiences throughout the course.

Criteria for selection-

1. Final passing grade in Foods & Nutrition I

FINE ARTS

ART 9
(Semester course – ½ credit)

Students in this course will be given the opportunity to create many successful art projects despite their skill level. The course curriculum begins with mediocre complexity and allows growth with creativity and proficiency. The students will be taught basic fundamentals in drawing and will be able to elaborate on it given their desire and persistence. The course work will include optical illusion drawings, tessellations, pop art paintings, ceramic candle holders, grid drawings/paintings as well as the introduction of watercolor. The students will leave this elective class with a firm understanding on what to expect in their future art classes.

Criteria for selection-

1. Elective course with no prerequisite

GENERAL ART
(Semester course - ½ credit)

Students in this course will be exposed to a variety of different mediums, but will focus on the core aspect of drawing. Drawing is the foundation for artistic expression. Without a concentration in drawing, the students would not have the proper tools to further create art using different mediums. The course curriculum will include lessons attributing famous artists and the movements of their affiliation. Some of the famous artists and their movements are: Van Gogh/Post- Impressionism, Picasso/ Abstract, Seurat/ Pointillism, and Warhol/ Pop. The course work will involve an assortment of projects including perspective and portrait drawing, canvas painting, ceramics, collage, papier-mâché, watercolor, and printmaking.

Criteria for selection-

1. Elective course with no prerequisite

INTRODUCTION TO PAINTING
(Semester course – ½ credit)

This course is designed to elaborate on student's prior knowledge of painting. We will focus on learning formal painting techniques along with using a wide array of painting mediums. Throughout the duration of the course the students will learn how to use acrylic, watercolor, and oil paints. We will touch on various elements of art, primarily referencing value, color, and line. The students will develop a strong grasp on the blending and application process of using color.

Criteria for selection-

1. Elective course with no prerequisite

PORTRAITS AND ILLUSTRATION
(Semester course – ½ credit)

This art course will explore the world of portrait painting and illustration, utilizing a number of mediums to create dynamic works that tell a story or convey an emotion. Drawing will be a prevalent aspect of this course, but students will also work extensively with paint, and other mediums. Various techniques and styles wills be explored in order to create a wide variety of 2D works. Elements of design will be studied in this class as well, teaching students how to set up an interesting and effective image through the use of composition and negative space.

Criteria for selection-

1. Elective course with no prerequisite

JEWELRY AND FIBERS
(Semester course – ½ credit)

This art course will explore the world of nontraditional mediums, including jewelry making, sculpture, and fibers. Students will learn techniques such as wax casting, which they will utilize to create jewelry, and batik, a traditional method of adding fabric dyes to cloth in

order to create images. As these mediums are more nontraditional, they will require minimal drawing skills but will encourage students' problem solving capabilities and will require a more analytical approach to the artwork made.

Criteria for selection-

1. Elective course with no prerequisite

ART III
(Full-year course – 1 credit)

Students in this course will utilize the freeform class structure to develop technique and improve skills in desired areas. Essentially a portfolio building class, students will complete projects of their own choosing, creating a body of work that is reflective of their artistic style and voice. The instructor in this class acts more as a facilitator allowing students to explore the content and experience a student-lead learning environment. In addition to honing previously learned skills, students will also be introduced to a number of advanced techniques, independently and as a group. The course also encourages students to experiment, affording students the opportunity to work in mediums not learned in previous classes. Students will be graded based on the quality of their work, the evidence of progress made throughout the duration of the year, and the efficacy of their class time use.

Criteria for selection-

1. Final grade of C or better in any Art class
2. Prior completion of a minimum of 2 Art credits
3. Approval from course instructor

ART HONORS
(Full-year course – 1 credit)

Students in this course will enhance their creativity and develop their own style in art. The students will produce a portfolio of artwork which will be beneficial in their quest to expand their talent in their future education. The course curriculum will focus on many different genres of artistic expression. The students are given freedom to create art using any medium that they are comfortable with; however, they are also encouraged to attempt new and different art forms. Course work for each nine-week period will include four complete projects. The students are also required to keep art journals. At the end of each week, a class art critique will be held to discuss their art work and journal entries.

Criteria for selection-

1. Final grade of B or better in any Art class
2. Prior completion of a minimum of 2 Art credits
3. Recommendation of prior Art teacher

HIGH SCHOOL BAND
(Full-year course – 1 credit)

Students in this course will continue to develop their skills in performing music on an approved band instrument in both a marching band and a concert band setting. Marching band begins immediately after school lets out in June with rookie marching camp, sectionals, and full band rehearsals to prepare for the Brentwood Fourth of July Parade. A two-week band camp in the last two weeks of July to August is mandatory for every member. The marching band performs at every football game (home and away), a few parades including the Brentwood Fourth of July Parade, Kennywood Fall Fantasy Parade, Pittsburgh Veterans Day Parade, and Brentwood Memorial Day Parade, as well as a few band festivals in August through November. As the marching season winds down after the first nine weeks grading period, the concert band begins to prepare for the winter concert held in December and the spring concert held in May. Following the spring concert, marching band resumes in preparation for the Brentwood Memorial Day Parade. The band travels to Orlando, FL in February/March on even numbered years.

Criteria for selection-

1. Students must have previous experience in band, audition or teacher recommendation.

HIGH SCHOOL BAND HONORS
(Full-year course – 1 credit)

High school band members in grades 11 and 12 with a minimum of two years band experience may apply for honors band and receive a weighted grade. In addition to the curriculum in band, honors band students must audition for the PMEA Honors Band. Audition music for each instrument rotates on a four-year cycle and is available through Volkwein's Music. It is the student's responsibility to secure the music early and prepare for auditions usually held on the first Monday of October. Other course requirements include application to or participation in the PMEA District 1 Senior High School Band or Orchestra Festivals, performing a solo, participation in an ensemble or in the musical pit orchestra, peer-tutoring or providing private lessons for other students, and running sectional rehearsals.

Criteria for selection-

1. Students must be recommended by instructor for this course.

HIGH SCHOOL JAZZ BAND
(Full-year course – 1 credit)

Jazz band provides students with the opportunity to explore a wide repertoire of popular music ranging from swing and other forms of jazz to rock n' roll and contemporary hits. This smaller ensemble includes alto saxophones, tenor saxophones, baritone saxophone, trumpets, trombones, piano, guitar, bass, drum set and auxiliary percussion. The jazz band performs at the winter and spring band concerts as well as other community performances throughout the school year.

Criteria for selection-

1. Written approval from director

HIGH SCHOOL CHORUS
(Full-year course – 1 credit)

The high school chorus is a performing ensemble designed to teach and develop vocal music skills. Through the implementation of Kodàly sight-singing, music theory for choirs & vocal technique training, members will demonstrate expected levels of vocal abilities in an accepted and professional manner, whether performing individually, in small groups or in the full ensemble. Chorus members are given an opportunity to advance according to their skill levels and interests professional choral auditions & festivals such as the PMEA Choral Festivals on a district, region, state & national level. High school chorus is an elective course which will meet and rehearse in a scheduled class period each day. The chorus performs in the winter and spring chorus concerts as well as other community functions. Participation in these concerts is expected and absence from a performance may affect the student's grade in the course.

Criteria for selection-

1. Previous participation, audition and/or teacher's recommendation.

HIGH SCHOOL CHORUS HONORS
(Full-year course - 1 credit)

High School Chorus members in grades 11 and 12 with a minimum of two years chorus experience may apply for honors chorus and receive a weighted grade. In addition to the curriculum in High School Chorus, honors chorus students must audition for the PMEA Honors Choir. It is the student's responsibility to learn the music and prepare for auditions which are usually held in October. Other course requirements include application to or participation in the local Tri-M Music Honor Society Chapter 7903, performing a solo, participation in extra ensemble performances, peer-tutoring or providing private music tutoring for other students, and running sectional rehearsals.

Criteria for selection-

1. Students must be recommended by instructor for this course.

FOREIGN LANGUAGES

GERMAN I
(Full-year course – 1 credit)

German I is the foundation of the language of German. The German I student begins with pronunciation of letters and sounds and learning to introduce oneself and greet others. Basic classroom commands are taught and then the students expand into discussions of people's homes and interests. They learn to discuss likes and dislikes, offering hospitality, discussing family and friends, school life, reacting to good news and bad news, shopping for things, discussing costs, and giving compliments. They write their first essays, detailing their daily life. By the end of the school year, German I students are expected to make plans with others using their knowledge

of at least 30 verbs, with correct conjugations. The recognition of grammatical patterns and rules such as forming plurals is necessary for success in German I.

Criteria for selection-

1. Teacher recommendation
2. Proficient or Advanced on 8th grade ELA PSSA

GERMAN II
(Full-year course – 1 credit)

German II relies upon the foundation gained in German I. Students begin by mastering additional verbs that are modals/auxiliaries. They then continue use of the modal verbs to express obligations and decline invitations. Students learn to offer help to people in the form of everyday tasks. German II begins introduction to the past tense of verbs and students then learn to say what tasks they have completed. The grammar in German II then becomes more complicated as indirect objects and adjectives are used to make the language more precise. Students continue with past tense and saying what they did and for whom. Projects in German II also include mastery of famous German-born people and introducing oneself in the form of a speech/presentation.

Criteria for selection-

1. Teacher recommendation
2. Final grade of C or better in German I

GERMAN III
(Full-year course – 1 credit)

German III is a challenging year with regard to grammar. The third year employs more synonyms of the vocabulary mastered in German I and II. It also relies on the mastery of the accusative and dative cases so that the student can now express more precisely and read more authentic texts. German III revisits the past tense and applies the past so that the students can write a sequence of events that happened. From there, students can now say what they did, and write where they were with correct prepositions, and how they feel about their experiences. They then learn to employ reflexive verbs and give opinions and regrets. They then learn to express pain, offer help and give advice.

Criteria for selection-

1. Teacher recommendation
2. Final grade of B or better in German II

GERMAN IV HONORS
(Full-year course – 1 credit)

German IV Honors introduces more grammar in the form of another past tense form (the narrative), the genitive (possessive) case and adjective endings. The past tense mastery allows the German IV student to work better with authentic narratives. They read their first novel in German and discuss literary devices from a German perspective. The German IV student learns

to make comparisons, use grammatically challenging adjectives, and give suggestions. They learn the history of German cities, and employ prepositions to describe cities and make suggestions on what one can do in the German city. Finally, they combine their grammar/vocabulary experience to gain knowledge of Germany's geography and describe it orally in a twenty-minute presentation.

Criteria for selection-

1. Teacher recommendation
2. Final grade of B or better in German I, II, and III

ADVANCED PLACEMENT GERMAN LANGUAGE AND CULTURE
(Full-year course – 1 credit)

This class is organized around the College Board's theme suggestions for AP German. We begin the year with a unit about people and personal traits. We will learn vocabulary surrounding the themes of our appearance and how we can make suggestions to people. Our next themed unit teaches about social groups and we learn to express points of view in more precise ways than we learned in previous years. The third theme is the environment. We look at physical geography and then expand the topic to problems in our environment and how people react to them. Then we spend time reading about the history of Germany from the first chancellor up to today's Germany. They will read materials and answer comprehension questions that provide a concise knowledge of what historical events led Germany to where it is today. Last, we read the novel _Emil und die Detektive_ and learn literary devices while reading in the authentic text. Routines that we will have in German 5 AP are regular vocabulary building using AP German words, listening to a soap opera, using the Goethe Institute's videos about German daily life, studying German news and practice AP exams.

Criteria for selection-

1. Teacher recommendation
2. Final grade of B or better in German IV

SPANISH I
(Full-year course – 1 credit)

The first year course in Spanish provides the foundation for the four essential skills: listening, speaking, reading, and writing. The students learn everyday situations through unit themes, such as greeting others, inviting friends, expressing emotions and opinions, and seeking information about personal details, school, food, and family. In addition, ample written exercises and a variety of activities reinforce vocabulary usage and grammatical structures. Listening skills are developed using teacher and peer conversations as well adding enrichment with cultural insights and perspectives.

Criteria for selection-

1. Teacher recommendation
2. Proficient or Advanced on 8th grade ELA PSSA

SPANISH II
(Full-year course – 1 credit)

In this level of Spanish study, students will build on the basic vocabulary learned in Spanish I. Students will improve their abilities to write, speak, read and understand the target language as well as the culture of Spanish speakers throughout the world. Course work will involve grammar exercises and small projects to practice the past tense, object pronouns, and commands while focusing on the themes of shopping, celebrations, traveling, healthy living, careers, and giving directions around town.

Criteria for selection-

1. Teacher recommendation
2. Final grade of C or better in Spanish I

SPANISH III
(Full-year course – 1 credit)

In this level of Spanish study, students will continue to increase their vocabulary. Students will study vocabulary relating to: school activities, injuries to the body, daily activities, hobbies, childhood activities, personal descriptions, ordering in a restaurant, cooking, shopping in open air markets, nature, and traveling. Students will continue to improve their abilities to produce and understand the target language. They will enhance their grammar skills by focusing on: irregular preterit conjugations, reflexive verbs, participles as adjectives; negative expressions; the imperfect tense; forming adverbs; using commands with two object pronouns; the subjunctive; as well as distinguishing between imperfect and preterit tenses.

Criteria for selection-

1. Teacher recommendation
2. Final grade of C or better in Spanish II

SPANISH IV HONORS
(Full-year course – 1 credit)

In this honors level of Spanish study, students will further their abilities to communicate in Spanish by learning advanced vocabulary and grammar. Students will increase their abilities to fluidly write and speak, as well as to comprehend spoken and written language. Students will make brief presentations, write journal entries, as well as study history and literature. The course is conducted primarily in Spanish; thus, the students are expected to use more Spanish than in previous years, to aid in comprehension and development of the target language. English is used to reinforce topics and grammar.

Criteria for selection-

1. Teacher recommendation
2. Final grade of B or better in Spanish I, II, and III

ADVANCED PLACEMENT SPANISH LANGUAGE AND CULTURE
(Full-year course – 1 credit)

The AP Spanish V course is designed to hone the four skills of language learners: listening, speaking, reading and writing. The teacher will speak almost exclusively in Spanish. Students will also be encouraged to speak exclusively in Spanish while they analyze literature and work with complex grammar structures. The vocabulary taught is in accordance with the themes established by the CollegeBoard: global challenges, science and technology, contemporary life, personal and public identities, families and communities, as well as beauty and aesthetics. Each unit is structured to include conversations in Spanish, speaking assessments, AP practice test questions, and written journal entries that will reinforce the difference between formal and informal language structures.

Criteria for selection-

1. Teacher recommendation
2. Final grade of B or better in Spanish IV Honors

SPANISH FOR HERITAGE SPEAKERS
(Full-year course – 1 credit)

¿HABLAS ESPAÑOL A TU CASA? ¿LO ENTIENDES BIEN? PUES, ÉSTA ES LA CLASE PERFECTA PARA TI.

This bilingual class will fill a need for students who are native speakers of Spanish that are not appropriately challenged in a Spanish class designed for non-native speakers. This class would provide an opportunity for Heritage Speakers to explore the language and culture of their families. Students will read and analyze various types of literature as well as current events to improve their writing and speaking in Spanish. The Heritage Speakers will also share their cultural background with each other and perhaps to the non-heritage speaker Spanish classes. Additionally, students will demonstrate critical thinking by analysis, making inferences, drawing conclusions, establishing patterns, and/or solving problems. Topics will include themes and assignments that may prepare them for the Spanish AP Language and Culture exam as well as the Spanish Literature and Culture exam. They include, but are not limited to: Families and Communities, Science and Technology, Beauty and Aesthetics, Contemporary Life, Global Challenges, Personal and Public Identities, Time and Space, as well as Literary Process.

Criteria for selection-

1. Grades 9-12
2. Speaks and understands Spanish fluently

HEALTH & PHYSICAL EDUCATION

HEALTH AND WELLNESS
(Semester course – ½ credit)

The purpose of this health class is to provide students with the basic framework of knowledge to develop a healthy lifestyle and to understand that they are responsible for their own health. Students will obtain, interpret and understand basic health information and services and be competent to use such information and services in ways that promote health. Students will have the opportunity to incorporate decision making skills and healthy choices throughout the following units: basic nutrition, health triangle, skin health, healthy relationships/dating violence, adolescent decision making/STIs/AIDS/HIV, drug abuse, and mental health (depression/anxiety/suicide). A combination of lectures, class discussions, computer labs, Power Point presentations, guest speakers, videos and student activities will show students that decisions they make now can promote health and enjoyment in the future.

Criteria for selection-

1. Course must be completed in either 10^{th}, 11^{th} or 12^{th} grade

FITNESS/NUTRITION/WEIGHT LIFTING
(Semester course – ½ credit; Lab PE – ⅗ credit)

The emphasis of this course is on life-long exercise principles combined with the immediate benefit of an aerobic and strength workout. Students will experiment with different types of workouts and be encouraged to apply the information to their own body and level of conditioning. Activities could include, but are not limited to, yoga, pilates, toning vs. building muscle, program design, proper nutrition, training with weights, dumbbells, and kettle bells, bosu balls, physio balls, zumba, modified boot camp, walk aerobics, dance aerobics, meditation and other specialized training. Since learning to know one's own abilities while implementing general principles is the objective, individualization is encouraged and all levels of conditioning are welcome. A fitness assessment will be conducted two to three times during the semester to determine a student's physical fitness level and aid in developing a personalized program to progress an individual to the next level of fitness. All students should be appropriately dressed for class; athletic shorts/sweatpants with drawstring, secured tennis shoes and a t-shirt/sweatshirt are required. Students will be evaluated on dress and active participation. This course is available to all students who aspire to improve or enhance their personal wellness.

Criteria for selection-

1. Physical education is required for all students in grades 9-12

COMPETITIVE SPORTS
(Semester course – ½ credit; Lab PE – ⅗ credit)

Students in this course will be engaging in a variety of competitive sports/games encouraging fitness and lifetime recreation. The curriculum will focus on basketball, kickball, softball, ultimate Frisbee, 4 square volleyball/volleyball, handball, badminton, football-touch/flag, hockey, nitroball, wombat ball, speedball, outdoor activities, etc. All students should be appropriately dressed for class; athletic shorts/sweatpants with drawstring, secured tennis shoes and a t-shirt/sweatshirt are required. Students will be evaluated on dress and active participation. Students who take this course must be highly motivated due to the competitive play.

Criteria for selection-

1. Physical education is required for all students in grades 9-12

MATHEMATICS

ALGEBRA I
(Full-year course – 1 credit)

This course will expand upon the foundational algebra skills studied in Math 8. Course content will include units on Linear Equations and Inequalities, Functions and Coordinate Geometry, Systems of Linear Equations and Inequalities, Polynomial Operations, and Data Analysis and Probability. Emphasis will be placed on application problems that focus on developing critical thinking and modeling skills. Students will be encouraged to represent their solutions to problems in a variety of ways, including algebraically, graphically, numerically, and verbally. Students enrolled in this course will sit for the Keystone Exam in May.

Criteria for selection-

1. Completion of Math 8 with teacher recommendation
2. Completion of Foundations of Algebra

ALGEBRA II
(Full-year course – 1 credit)

This course is designed for the academic level student and is aligned to the PA Keystone Algebra II Anchors. Throughout the year, topics studied in Algebra I will be taken to a more advanced level of understanding. Emphasis is placed on problem solving and developing critical thinking skills. Course content will include the study of the quadratic, rational, and radical function families. Students will also gain knowledge in the real and imaginary number systems. In addition, students will study polynomial operations, systems of equations, data analysis and probability, and will be introduced to exponential and logarithmic functions. Graphing calculators will be used when applicable. Students will be required to complete daily homework. This course is not a review of Algebra I and students should enter this course with a level of proficiency in the skills taught in previous classes.

Criteria for selection-

1. Completion of Geometry

ALGEBRA II HONORS
(Full-year course – 1 credit)

This course is designed for the advanced level student who desires a more challenging course of study. The curriculum is aligned to the Algebra II Keystone Anchors. Throughout this course, students will develop a more in-depth study of the concepts of analyzing and interpreting data, problem solving, and functions. Course content will include the use of graphics calculators as an integral part of this course. Students will be expected to complete daily homework assignments. This course will move at an accelerated pace allowing additional topics to be incorporated into the curriculum. Students are expected to be active participants.

Criteria for selection-

1. Teacher recommendation
2. No nine week grade lower than a B in Geometry
3. Proficient or above on the Algebra Keystone Exam

FOUNDATIONS OF ALGEBRA
(Full-year course – 1 credit)

This course is designed to reinforce and expand the understanding of foundational algebra concepts studied in Math 8. Topics will include number systems and operations, properties of numbers, proportional thinking, simplifying and solving algebraic equations, patterns, and functions. Upon completion of the course, students will be prepared for the Algebra 1 curriculum in grade 10. Students in Foundations of Algebra will NOT sit for the Keystone Exam in May.

Criteria for selection-

1. A final grade of "E" in Math 8
2. A final grade of "D" in Math 8 with teacher recommendation

GEOMETRY
(Full-year course – 1 credit)

The study of plane geometry has two points of emphasis. The first is to learn and apply numerous geometric properties to real world situations. The second is to provide students with an opportunity to develop organizational abilities and both deductive and inductive reasoning skills. The student will review coordinate geometry and use those skills to relate geometry to Algebra. They will also learn segment, angle and line relationships, properties of triangles and quadrilaterals, similarity and congruence, polygon topics, surface area and volume of three dimensional figures, circles and right triangle trigonometry. Daily homework is a course requirement.

Criteria for selection-

1. Completion of Algebra I

GEOMETRY HONORS
(Full-year course – 1 credit)

The study of plane geometry has two points of emphasis. The first is to learn and apply numerous geometric properties to real world situations. The second is to provide students with an opportunity to develop organizational abilities and both deductive and inductive reasoning skills. Congruency, similarity, and inequality are investigated and proofs are developed through the application of postulates, definitions, and theorems. Students will develop skills using a compass and straightedge to complete constructions. Additional topics include the concepts of coordinate geometry, transformations, and the perimeter, area, and volume of plane figures and solids. This course follows the same progression as Geometry, but provides additional examples of real world applications and the opportunity to explore topics more fully. Daily homework is a course requirement.

Criteria for selection-

1. Teacher recommendation
2. No nine week grade lower than a B in Algebra I

MATHEMATICAL PRINCIPLES & APPLICATIONS
(Full-year course – 1 credit)

Mathematical Principles and Applications will provide students with the fundamental high school mathematics topics required for entry level college math courses, as well as entrance to a technical school program. Emphasis will be on advanced algebraic topics including polynomials, rational functions, radical functions, exponential functions, and logarithmic functions. Additionally, students will learn when and how to apply each of these types of functions to real-world scenarios and to create and interpret their graphical representations. Calculators will be used throughout the course; however, students should be proficient in fraction, decimal, and percent computation.

Criteria for selection-

1. Completion of Algebra II and Geometry

TRIGONOMETRY AND PRECALCULUS
(Full-year course – 1 credit)

The purpose of this course is to prepare students for the study of more advanced math courses. Semester 1 will focus on precalculus units. Students will study functions and their characteristics, higher-order polynomial functions, and exponential and logarithmic functions. Semester 2 will focus on trigonometry. Students will study the radian unit of measure, right triangle and non-right triangle trigonometry, and the three trigonometric functions and their inverses. Students will conclude semester 2 by studying the graphs of the six trig functions, verifying trig identities, and solving trig equations. Students will be encouraged to represent their solutions in a variety of ways A graphing calculator will be provided to use during class. Student have the opportunity to earn 3 college credits at a reduced cost through a partnership with Carlow University pending fulfillment of established criteria.

Criteria for selection-

1. C average or better in Algebra II or Algebra II Honors

TRIGONOMETRY AND PRECALCULUS HONORS
(Full-year course – 1 credit)

The purpose of this course is to prepare students for the study of calculus and other advanced math courses. Semester 1 will focus on precalculus units and include the study of functions and their characteristics, polynomial and rational functions, exponential and logarithmic functions, conics, and series and sequences. Semester 2 will focus on the study of trigonometry. Students will explore the radian unit of measure, right triangle and non-right triangle trigonometry, and the three trigonometric functions and their inverses. Semester 2 will conclude with graphing the six trig functions, verifying trig identities, and solving trig equations. In all units, students will work individually and cooperatively to solve advanced application problems. Students will be encouraged to represent their solutions in a variety of ways and make connections among those representations. Students will be encouraged to represent their solutions in a variety of ways A graphing calculator will be provided to use during class. Students have the opportunity to earn 3 college credits at a reduced cost through a partnership with Carlow University pending fulfilment of established criteria.

Criteria for selection-

1. B average or better in Algebra II or Algebra II Honors
2. Teacher recommendation

ADVANCED PLACEMENT CALCULUS AB
(Full-year course – 1 credit)

AP Calculus AB is a full year course in differential and integral calculus with the curriculum following the standards and content established by the College Board. The class is a college-level mathematics course designed to develop a thorough understanding of concepts of calculus through a multi-representational approach to problem solving. Throughout the year, we as a class will be representing concepts, results, and problems graphically, analytically, numerically, and verbally. Emphasis will be placed on connecting these concepts and technology will be used regularly to enhance understanding. As a college-level course, AP Calculus will be paced accordingly. Time spent outside of class will be required. Students can sit for the AP Exam in May to earn college credit for a qualifying score of 3 or higher.

Criteria for selection-

1. B average or better in Trigonometry and Precalculus (Regular or Honors)
2. Teacher recommendation

ADVANCED PLACEMENT CALCULUS BC
(Full-year course – 1 credit)

AP Calculus BC extends the study of calculus to different types of equations (polar, parametric, vector-valued) and new topics (such as Euler's method, integration by parts, partial fraction decomposition, and improper integrals), and introduce sequences and series. It is equivalent to a second semester college calculus class and will be paced accordingly. The course continues to emphasize the "four corners" approach to solution representation use technology in problem-solving. Students can sit for the AP Exam in May to earn college credit for a qualifying score of 3 or higher.

Criteria for selection-

1. B average or better in AP Calculus AB

ADVANCED PLACEMENT STATISTICS
(Full-year course – 1 credit)

AP Statistics is equivalent to a one-semester, introductory, non-calculus based college course in statistics. The course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes in the AP Statistics course: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students use technology, investigations, problem solving, and writing as they build conceptual understanding. As a college course, AP Statistics will be paced accordingly. Time outside of class will be required. Students have the opportunity to sit for the AP Exam in May to earn college credit for a qualifying score of 3 or higher.

Criteria for selection-

1. Teacher recommendation
2. B average or better in both Algebra II and Geometry (Regular or Honors)

CS DISCOVERIES III
(Semester course - ½ credit)

This semester course empowers students to create authentic digital artifacts and engage with computer science as a medium for creativity, problem solving, and fun. In the first part of the course, students will be introduced to code.org's "App Lab" environment, where they will work collaboratively to develop an app that solves a problem for a specific group of people. In the second part of the course, students continue to develop their coding skills as they explore the role of hardware platforms in physical computing. This will culminate with students creating an app that features both a computer program and a hardware controller. The course concludes with a unit on Artificial Intelligence (AI) and Machine Learning. Students will use an environment called "AI Lab" to develop programs that make predictions using lots of data from a variety of inputs. The course concludes with students' developing their own AI prediction app.

Criteria for selection-

1. Elective course with no prerequisite

ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES
(Full-year course – 1 credit)

AP Computer Science Principles is designed to be the equivalent to an introductory college computing course. The year-long class introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology impact our world. More than a traditional introduction to programming, this is an engaging and rigorous course that explores many of the foundational ideas of computing. Students will have the opportunity to complete the College Board's AP assessment for Computer Science Principles which consists of one through-course performance task (a large-scale programming project) in addition to the written test in May. Those who pass the AP assessment can earn college credits.

Criteria for selection-

1. Teacher recommendation
2. B average or better in Algebra I
3. B average or better in CS Discoveries III (highly suggested, but not required)
4. B average or better in CS Academy – CS1 (highly suggested, but not required)

CS ACADEMY – CS1
(Semester course – ½ credit)

This semester course introduces students to the Python programming language in a coding environment called CS Academy. The class was inspired by an introductory computing course that has been taught at Carnegie Mellon University for the past 10+ years. It is based on the idea that learning about programming and computer science should be both fun and engaging. This requires interesting problems to solve, as computational problem-solving is at the core of computer science. As students progress through the units of the course, they will explore and practice a wide range of concepts and skills. At the end, students will have engaged in a rigorous learning experience and should be able to computationally solve a wide range of problems.

Criteria for selection-

1. "B" average or better in CS Discoveries III (suggested, but not required)

SCIENCE

SCIENCE 9
(Full-year course – 1 credit)

Science 9 is an integrated science course that will examine both physical and life science. Students will explore topics such as atoms, chemical reactions, molecules, ecology, populations, and biodiversity. This course is designed to provide students with a solid foundation in science and improve scientific literacy. Course work will include inquiry-based labs and hands-on activities that will reinforce topics taught during the year.

Criteria for selection-

1. Recommendation of 8th grade science teacher

BIOLOGY I
(Full-year course – 1 credit)

Students in this course will develop an understanding of the major themes of biology such as the characteristics of life, chemistry of life, cellular biology, genetics, evolution, anatomy and ecology. Course work will include inquiry-based labs and hands-on activities that will reinforce topics taught during the year. At the end of the year, students will be given the Biology Keystone Exam.

Criteria for selection-

1. Recommendation of 8th grade science teacher

BIOLOGY I HONORS
(Full-year course – 1 credit)

Biology I Honors is an accelerated course intended to teach students about the major themes of biology. A focus will be placed on biochemistry, cellular biology, genetics, evolution, anatomy and ecology. The goal of this course is to help students develop an understanding of key biological concepts and to strengthen their critical-thinking skills. Course work will include readings, lab reports (both formal and informal) and hands-on activities that will reinforce topics taught during the year. At the end of the year, students will be given the Biology Keystone Exam.

Criteria for selection-

1. Recommendation of 8th grade science teacher

BIOLOGY II
(Full-year course – 1 credit)

Biology II is a senior level course intended to prepare students for the rigors of college-level sciences. This course is suggested for students interested in majoring in science or medical-related fields. Students will learn topics such as biochemistry, cytology, genetics, microbiology, evolution, anatomy, and ecology. Course work will include readings, hands-on activities and labs. Formal lab reports are required for the majority of lab activities. Also, students will be required to complete a formal research project on a genetic disorder.

Criteria for selection-

1. Recommendation of 11th grade science teacher
2. Final grade of a C in Biology I or completion of Biology I Honors

CHEMICAL CONCEPTS
(Full-year course – 1 credit)

Chemical Concepts is an alternative chemistry course emphasizing chemistry's relevance to the community. It will provide an understanding of the role of chemistry in supplying our water needs, obtaining and conserving chemical resources, and the importance of petroleum.

Criteria for selection-

1. Completion of Biology I

CHEMISTRY I
(Full-year course, includes Lab Period 2x per Week – 1 credit)

Students in this course will examine the fundamental properties of elements, compounds, and mixtures. Chemical reactions and chemical processes are observed and explained at the atomic and molecular level using the scientific method. Students will integrate conceptual understandings, algebra skills and an ongoing laboratory experience to develop the fundamentals of problem solving, laboratory work, and the practical application of Chemistry. This course

requires two additional scheduled periods per week for laboratory experiences. This course is for those students seriously considering a 4-year college and expecting the rigor of a lab science.

Criteria for selection-

1. Final grade of a C in Biology I or completion of Biology I Honors
2. Final grade of C in Algebra I
3. Teacher recommendation

CHEMISTRY I HONORS
(Full-year course; includes Lab Period 2x per Week – 1 credit)

Basic principles and concepts of chemistry are discussed in this course. Students will examine topics about the atom, chemical reactions, solutions, acids and bases, equilibrium, nomenclature, compounds, bonding, reaction rates, gases and oxidation-reduction/electrochemistry. Nuclear, organic and biological chemistry topics will be incorporated throughout the course. This course covers seven periods each week. Three of the periods are dedicated to laboratory experiments. Two periods are utilized for problem solving. The remainder of the time is used for lectures, homework answers, demonstrations, and review. The laboratory experiences are an essential part of the course and are related to the topics and concepts being discussed at the time in class. A formal written lab report is required for each lab and must include a discussion on the results and an analysis of the data.

Criteria for selection-

1. A minimum of a B for each non-Biology Honors report period
2. A minimum of a C for each Biology Honors report period
3. A strong Algebra background

CHEMISTRY II (HONORS)
(Full-year course; includes Lab Period 2x per Week – 1 credit)

This course is an extension of Chemistry I Honors. Topics covered are similar to the ones covered in Chemistry I Honors but in more detail. Chemistry II involves more complex math problems than encountered in Chemistry I Honors. Topics include atoms, molecules, ions, chemical reactions, thermochemistry, quantum theory, electron configurations and periodicity, ionic and covalent bonding, gases (real), molecular geometry and chemical bonding theory, states of matter, solutions, reaction rates and chemical equilibrium**,** acid and bases, acid-base equilibria, solubility and complex ion equilibria, and electrochemistry. Laboratory experiments are included and are related to the material being discussed at the time in the class. A formal lab report is required for each lab and must include a discussion on the results and an analysis of the data. Students should have a good understanding of the fundamentals of algebra to be successful in this class.

Criteria for selection-

1. Final Grade of B in Chemistry Honors
2. Recommendation of previous chemistry teacher

PHYSICAL SCIENCE
(Full-year course – 1 credit)

Students in this course will examine the following physics topics: mechanics, electricity and wave motion. Prerequisite math skills should include, but are not limited to those presented in Algebra I and Geometry. An emphasis is placed on a conceptual understanding of the physics principles that are presented and the ability to generalize concepts from an equation. Coursework involves laboratory activities, in-class assignments and formal assessments that require students to demonstrate problem-solving skills in the context of a science scenario.

Criteria for selection-

1. Recommendation from previous chemistry teacher

PHYSICS
(Full-year course – 1 credit)

Students in this course will examine the following physics topics: mechanics, electricity and wave motion. Prerequisite math skills should include, but is not limited to those presented in Algebra II. An emphasis is placed on a mathematical understanding of the physics principles that are presented. Coursework involves laboratory activities, in-class assignments and formal assessments that require students to demonstrate problem-solving skills in the context of a science scenario.

Criteria for selection-

1. Pass previous year's Chemistry course with a C or higher OR
   Pass Chemistry Concepts with an A or higher AND
2. Recommendation from previous chemistry teacher

ADVANCED PLACEMENT PHYSICS 1
(Full-year course; includes Lab Period 2x per Week – 1 credit)

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics (including rotational motion); work, energy and power; mechanical waves and sound; and introductory, simple circuits.

Criteria for selection-

1. Pass Honors Chemistry with a C or higher OR Pass Chemistry with an B or higher AND
2. Recommendation from chemistry teacher

ADVANCED PLACEMENT PHYSICS C: MECHANICS
(Full-year course; includes Lab Period 2x per Week – 1 credit)

Students in this course will examine classical Newtonian Mechanics as presented by the College Board's suggested curriculum. Prerequisite math skills must include Calculus (if not taken previously, then concurrently). A strong emphasis is placed on both mathematical and conceptual understanding of physics principles. Coursework involves laboratory activities, in-class

assignments and formal assessments that require students to demonstrate problem-solving skills in the context of an experiment or under a standardized-testing environment.

Criteria for selection-

1. Student intends to choose a math/science/engineering field in college AND
2. Taken calculus previously or taking concurrently AND
3. Pass AP Physics 1 with a C or higher OR pass Physics with an A AND
4. Recommendation from AP Physics 1 teacher

SOCIAL STUDIES

AMERICAN GOVERNMENT AND PENNSYLVANIA HISTORY
(Full-year course – 1 credit)

American Government / PA History is offered to freshmen as a course in civic education. The course is designed to enhance the student's ability in selecting, evaluating and applying relevant information from local, state and national levels of government to their daily lives. The basic concepts of federalism, duties and responsibilities of citizenship, representative democracy, separation of powers, checks and balances and judicial proceedings are presented to students throughout the year. The learning process provides students with an opportunity to demonstrate their knowledge of the subjects by participating in debates (current events), journal writing, a mock election and the drafting of proposed bills. Students will be required to complete a research project during the "Executive Branch" unit. Pennsylvania History will provide an opportunity to identify and analyze the political and cultural contributions of individuals to our state from the late 1700s to present day. Students will explore how conflict and cooperation among social groups and organizations have impacted the growth and economic development of our state.

Criteria for selection-

1. Required for students in 9th grade

WORLD HISTORY
(Full-year course – 1 credit)

In World History, students will experience a general overview of history while they explore major events that shaped the modern world in order to effectively function as contributing members of a 21st century global society. Students will learn about history throughout the world including, Europe, Asia, Africa, and the Americas beginning with the Middle Ages and culminating with a study of events impacting the world today. Students will develop skills such as using maps and graphs, reading and writing, and thinking critically about issues from multiple perspectives. Assessment will favor projects and real-life tasks.

Criteria for selection-

1. All 10th grade students are required to take a World History course

ADVANCED PLACEMENT WORLD HISTORY: MODERN
(Full-year course - 1 credit)

In AP World History: Modern, students investigate significant events, individuals, developments, and processes from 1200 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 connections; and utilizing reasoning about comparison, causation, and continuity and change over time. The course provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation.

AP World History: Modern is designed to be the equivalent of an introductory college or university survey of modern world history.

Criteria for selection-
1. Grade of an A or B in 9th grade World History course
2. Recommendation of 9th grade World History teacher

UNITED STATES HISTORY
(Full-year course – 1 credit)

Students in this course will study United States History in the Modern Era (1865-present). The course curriculum will provide for a review of the student's prior knowledge of United States History and then investigate the eras within the late 19th, 20th and 21st century United States respectively. Eras of emphasis will include…Post Civil War Reconstruction, The Gilded Age, and Life at the Turn of the Century, Progressivism, World War I, The Great Depression, World War II, The Cold War Era, Civil Rights, Vietnam, and the Modern Era. Course work will include reading and writing assignments, research on a variety of topics related to American History, class discussion, and assignments that relate to use of critical/higher order thinking skills.

Criteria for selection-
1. All 11th grade students are required to take a U.S. History course

UNITED STATES HISTORY HONORS
(Full-year course – 1 credit)

Students in this course will endeavor an advanced study of United States History that is much more comprehensive than the regular course offering but **not** as extensive as Advanced Placement United States History. Therefore, it is a college preparatory course but **not** a college equivalent course. Whereas the regular United States History course focuses mostly on America in the twentieth century, this is a survey course covering **all** of U.S. history and following the same chronological schedule as the AP U. S. History course (see below). The class is an extremely rigorous, fast-paced, and detailed study of American history. Students must be highly motivated and possess advanced reading comprehension skills as well as capable writing skills

(writing for this course is significant but is **not** as extensive as the expectation for AP). Class participation is greatly emphasized as instruction is heavily based on discussion and lecture. Completion of a summer reading assignment and film-review is expected, and grading will primarily involve multiple choice tests, essays, participation, and quizzes.

Criteria for selection-

1. Grade of an A or B in 10th grade World History course
2. Recommendation of 10th grade World History teacher

ADVANCED PLACEMENT UNITED STATES HISTORY
(Full-year course – 1 credit)

Students in this course will endeavor an extensive and detailed study of United States History designed to prepare them to pass the Advanced Placement United States History Exam offered by the College Board each year in May. The instructor's curriculum for this course has been audited and approved by the College Board as a college credit-equivalency course. Taught on the assumption that every student enrolled will take the AP Exam (though not required), **no adjustments will be available for students who choose not to take the AP Exam.** However, students who take the AP Exam and earn a passing score are awarded the equivalent of a complete course credit for United States History at most colleges and universities throughout the country (minimum passing score required and number of credits awarded are subject to the discretion of each individual university upon application for entrance). Students must be highly motivated and possess advanced writing and reading comprehension skills. Lectures and discussions emphasize advanced-learning topics and students are expected to consistently evaluate, analyze, and synthesize information. **Students must become familiar with basic historical information prior to attending class.** The course proceeds chronologically beginning with Native American communities prior to the European colonization of North America and concludes with coverage of recent historical developments and current events. Students will be expected to complete extensive reading, research, and writing assignments as well as supplemental work including film reviews, examination of primary sources, and a **summer assignment**. Grading involves extensive essay writing (including document-based), multiple-choice tests, participation, and quizzes. **Completion of summer assignment is required to maintain enrollment**.

Criteria for selection-

1. Grade of an A in 10th grade World History course
2. Recommendation of 10th grade World History teacher

ADVANCED PLACEMENT EUROPEAN HISTORY
(Full-year course - 1 credit)

In AP European History, students investigate significant events, individuals, developments, and processes from approximately 1450 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 connections; and utilizing reasoning about comparison, 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: interaction of Europe and the world,

economic and commercial development, cultural and intellectual development, states and other institutions of power, social organization and development, national and European identity, and technological and scientific innovations.

AP European History is designed to be the equivalent of an introductory college or university survey of modern European history.

Criteria for selection-

1. Grade of an A or B in 11th grade U.S. History course
2. Recommendation of 11th grade U.S. History teacher

SOCIOLOGY
(Semester course - ½ credit)

Students in this course will explore how societies, social institutions, and social groups influence behavior and affect social interaction and context. The course focuses on two important sociological concepts: the *sociological perspective*, the attempt to understand and explain human interaction by examining behavior in its broader social context; and *social construction*, socially accepted and shared ideas and understandings that form the basis for collective assumptions about the world and reality. Sociology also compares entire societies for the purpose of examining how differences in social structure influence behavior and social construction differently. The instructor often uses the mediums of film, internet, and television to broadly examine social context. Some of the information and material is mature in nature and requires parental permission. Grading is based primarily on participation, tests/quizzes and short essays. Class participation and group-work is greatly emphasized as students are expected to examine social interaction by taking part in it, an approach often employed by sociologists.

Criteria for selection-

1. Completion of 9th, 10th, and 11th grade social studies courses

PSYCHOLOGY
(Semester course - ½ credit)

This course offers students a basic introduction to the field of psychology, the scientific study of behavior and mental processes. In addition to examining theories which attempt to explain the mind, behavior, and learning, the course includes the study of individual personality development and analysis. Students will also learn about the various categories of psychological disorders, including their diagnosis and treatment, medically and therapeutically. The course will begin with a review of the most historically influential and culturally significant theorists regarded as pioneers in the field. The common general practices of modern psychology professionals and recent psychological and behavioral trends in society will also be examined. Students can expect to study in detail the symptoms and causes of the most prominent psychological disorders as well as dysfunctional and habit-forming behaviors. The course also offers information and strategies for improving one's personal psychological health and well-being. Grading is based on participation, group-work, multiple-choice/matching tests, short essays, and quizzes.

***AP Consideration:** This is *not* an AP class or even an Honors class. However, in the past, upon completing this course, some students have taken and passed the AP Psychology Exam at the end of the year. During this one semester course and in the months after, the instructor offers guidance, materials, and assistance to anyone who is interested in taking the AP Exam. Keep in mind that taking or passing the AP Exam will *not* increase the graduation credit total (.5) earned for completing this course, but that credit may be awarded by a college or university based on a student's score on the Exam.

Criteria for selection-

1. Completion of 9th, 10th, and 11th grade social studies courses

AMERICAN LAW
(Semester course - ½ credit)

American Law is designed to familiarize students with how the modern legal system is applied to their everyday lives. Students electing to take this course will be exposed to very practical and "real world" information as it pertains to criminal and civil law. The curriculum will focus on subjects such as crimes against people and property (larceny, murder, robbery, extortion, forgery, etc.) and subsequent defenses to those crimes. Students will be able to answer questions such as "What is the difference between First Degree Murder, Second Degree Murder, and Voluntary Manslaughter?", "Why is the insanity defense difficult to use?", and "Why may I need a lawyer and how do I select one?" The curriculum also delves in to civil law as well and investigates issues such as suing, how health, life, and automobile insurance protect us, signing of contracts, credit and identity theft, and negligence, just to name a few. Course work will include reading and writing assignments, case studies, projects, and film review to reinforce the topics at hand. This course provides a unique and practical opportunity to understand just how our system of law works and how it is intertwined with our lives as citizens every day.

Criteria for selection-

1. Completion of 9th, 10th, and 11th grade social studies courses

ECONOMICS
(Semester course - ½ credit)

This course is designed to offer a practical approach to the study of Economics. Within the curriculum students will investigate micro and macroeconomics studies such as what economics is, how our economic choices effect supply and demand, how world economic systems work, how the American free enterprise system affects the lives of U.S. citizens, safety net programs, labor, wages, and unemployment, banking services, investing, and taxation. Students will also be exposed to material that relates to their personal financial well-being. At the end of the course students will be able to answer questions such as "Where does my tax money go and how do I complete my tax forms"? "How do my purchases impact supply and demand"? "How can labor laws and unions impact American business"? "How can I protect my financial future?", "What programs do my tax dollars provide for me"?, "Why is investing money so important?", and "How do I make decisions about college costs, credit, buying a car, and choosing a bank?" Course work will involve reading, class discussion, critical thinking utilization, and projects related to the study of Economics.

Criteria for selection-

1. Completion of 9th, 10th, and 11th grade social studies courses

CONTEMPORARY ISSUES
(Semester course – ½ credit)

Contemporary Issues introduces you to current discourse on a variety of topics concerning the world today. You will explore controversial events, debate contentious positions, and ultimately learn the context of recent issues and their potential impacts on the future. This class is designed to eliminate confusion and uncertainty surrounding various issues and allow students to form their own opinions on matters that affect their world. Students will evaluate the issues and propose solutions from a variety of viewpoints. The course curriculum will be fluid with the ability to adapt if needed to issues/events as they unfold.

Criteria for selection-

1. Elective course recommended for students in grades 10 through 12

TECHNOLOGY EDUCATION

IML 9 (Industrial Materials 9)
(Semester course - ½ credit)

IML 9 is a semester long introductory to fabrication and design course. In this course students will design and fabricate a project using wood working equipment, CAD/CAM software, and a CNC router. Students will learn to apply the engineering design process to develop a project that meets specific design criteria. Student problem-solving and mechanical skills will be challenged through project design and fabrication.

Criteria for selection-

1. Elective course with no prerequisite

MANUFACTURING, DESIGN AND PROTOTYPING
(Semester course - ½ credit)

Manufacturing, Design and Prototyping is course designed to introduce students to manufacturing, design and entrepreneurship. In this course, students will work in groups to develop a product for sale and manufacture. Students will be responsible to develop a product that will meet local demand, is capable of being manufactured within school facilities, will be profitable and safe. Students will be responsible for developing a marketing plan and working prototype. In the follow up class, "Production, Materials and Manufacturing," students will be given the opportunity to prepare the concept for manufacturing and set up the business to bring it to market.

Criteria for selection-

1. Successful completion of any of the following: IML 9, TED 9, Toys for Tots, Introduction to Woodworking, Product Fabrication and Design, or instructor permission.

PRODUCTION, MATERIALS AND MANUFACTURING
(Semester course - ½ credit)

Production, Materials and Manufacturing is the second part of "Manufacturing, Design and Prototyping." It is a course designed to introduce students to the concepts of manufacturing, mass production and entrepreneurship. In this course, students will work in groups to set up a business (Brent Industries) and prepare the product developed in "Manufacturing, Design and Prototyping" for mass production. Students will be challenged to manufacture and complete the product during a one-week production run. They will also need to implement a marketing plan and ultimately deliver the finished products to the consumer. Students will seek to create maximum efficiency of time and materials in the manufacturing process while delivering a quality product that delivers the consumer an exceptional value while still being profitable.

Criteria for selection-

1. Although this is a continuation of "Manufacturing, Design and Prototyping", it is not a prerequisite.
2. Successful completion of any of the following: IML 9, TED 9, Toys for Tots, Introduction to Woodworking, Product Fabrication and Design, or instructor permission.

TOYS FOR TOTS MANUFACTURING
(Semester course - ½ credit)

This class is an engineering and manufacturing course that is designed to introduce practical engineering principles through research, design and manufacturing of a product for a charitable organization. This course will stress critical thinking and problem solving skills as they pertain to the engineering design process. The students will use CAD and CAM software programs to create the designs and program machinery. The course will challenge students to design and build jigs, fixtures and flow charts for the overall development of a toy design and manufacture process. The class will be operated like a business with individual and varying job responsibilities and assignments. It will be the responsibility of all students in the class to find and secure the funding for the supplies necessary to mass produce the toys. The class will culminate with delivery and distribution of the toys to "Toys for Tots".

Criteria for selection-

1. Elective course with no prerequisite

INTRODUCTION TO WOODWORKING
(Semester course- ½ credit)

Introduction to woodworking is a materials based course designed to utilize woodworking projects to develop critical thinking skills through a combination of teacher and student led activities, assignments and projects. Students will learn how to safely, efficiently and effectively manipulate the provided supplies and equipment necessary to fabricate a wood based project that focuses on skill development, logical thinking and creative expression. Manual and computer automated equipment will be incorporated into the projects.

Criteria for selection-

1. Elective course with no prerequisite

PRODUCT FABRICATION AND DESIGN
(Semester course- ½ credit)

Product Fabrication and Design is a course designed to teach advanced engineering and fabrication concepts. Students will work in groups to complete engineering/design/fabrication challenges that can cross multiple disciplines. Students will be challenged to design and fabricate contraptions that provide solutions to everyday problems. Fabrication materials can include, wood, metal, plastic and other composites.

Criteria for selection-

1. Elective course with no prerequisite

BATTLE BOTS FOR COMPETITION
(Full-year course - 1 credit)

Battle Bots for Competition is a course designed to teach concepts of engineering, design, fabrication and manufacturing. Students will learn to design a remote controlled robot from the ground up that is capable of meeting the demands and rigors of destructive battle. Students will develop logical thinking and practical engineering skills while solving the problems and overcoming the obstacles standing between them and the competition day battle arena. Some of the many obstacles to overcome include: chassis design, component selection, material analysis and selection, fabrication methods, weight requirements, part tolerance, electrical design, safety plan development, programming, planning for on-site repairs, testing, prototyping, CAD/CAM/CNC, and paperwork documentation. This course will challenge all students to improve critical and logical thinking skills while preparing them for careers in high technology, engineering, manufacturing and fabrication.

Criteria for selection-

1. Elective course with no prerequisite

TED 9 (Introduction to Technology Engineering & Design 9)
(Semester course - ½ credit)

This semester course for ninth grade students will provide the foundation needed for the (Advanced TED) engineering courses later in high school. Students will begin to develop orthographic drafting skills and utilize industry standard 3D modeling CAD programs like AutoCAD and Inventor to start developing problem solving skills by using the engineering design process. By the conclusion of the course students will use manufacturing machinery and tooling to produce wooden products that will solve a practical problem. Students will also use CNC and CAM technology to produce and race CO2 powered model cars.

Criteria for selection-

1. Elective course with no prerequisite

TED MECHANICAL (Technology Engineering & Design: Applied Mechanical Engineering)
(Semester course – ½ credit)

This course will focus upon using problem solving skills and critical thinking techniques to apply engineering principles to design, build, and compete mechanical machines in the "Chain Reaction Contraption" competition at the Carnegie Science Center where large monetary prizes can be obtained. In addition to students competing in the Chain Reaction Contraption competition they will also learn how to use industry standard 3D modeling CAD programs like AutoCAD and Inventor to create a background needed for future TED courses.

Criteria for selection-

1. Elective course with no prerequisite (Offered Fall semester only)

TED CIVIL (Technology Engineering & Design: Applied Civil Engineering)
(Semester course – ½ credit)

This course will focus upon using problem solving skills and critical thinking techniques to apply engineering principles to design and build model bridges for structural strength analysis. In addition, students will be required to design architectural schematics using industry standard CAD programs for testing and building structures.

Criteria for selection-

1. Elective course with no prerequisite (Offered Spring semester only)

TED ELECTRICAL (Technology Engineering & Design: Applied Robotics)
(Semester course – ½ credit)

This course will focus upon using learned techniques and strategies from previous TED courses of study. Students will compete in VEX robotic based activities/competitions within the classroom by producing and building their own robots. Students will have the opportunity to compete regionally against other schools in robot design and have a chance to progress into state and national finals if they produce winning robots.

Criteria for selection-

1. Successful completion of at least one TED course (Offered Fall semester only)

TED INDUSTRIAL (Technology Engineering and Design: Applied Industrial Engineering)
(Semester Course – ½ credit)

This course will focus upon using learned techniques and strategies from previous TED courses of study. Students will be required to use industry standard CAD software to create models and prototypes that can be manufactured by using CNC machines, 3D printers, and vinyl cutters. Students will produce key chains, stickers, and engraved LED lighted plaques in class. Additional student chosen projects will be required as the course progresses and skills are developed.

Criteria for selection-

1. Successful completion of at least one TED course (Offered Spring semester only)

TED HONORS (Technology Engineering and Design: Honors)
(Full-year course - 1 credit)

This is the capstone engineering course that is designed to allow students to compete in various engineering based competitions like F1 in Schools, STEM based Competitions, Chain Reaction Contraption, TSA (Technology Student Association) competitions or any approved area of study. Students will be required to work in groups and individually to complete any work load required for the competitions. In addition, students will have the opportunity to cross curricular paths using STEAM (Science, Technology, Engineering, Art and Math) to complete tasks using the engineering design process.

Criteria for selection-

1. Successful completion of at least two TED courses
2. Teacher approval based upon grades and performance in TED classes

STEEL CENTER FOR CAREER AND TECHNICAL EDUCATION

STEEL CENTER FOR CAREER AND TECHNICAL EDUCATION
(Full-year program – 3 credits)

Students who attend Steel Center can gain a labor market advantage through active learning that meets the expectations of 21st century employers and colleges. Each program will guide students through rigorous career oriented practical activities reinforced through core academic instruction. Students' employability will be further promoted by their opportunity to gain industry standard certifications required by local employers. Students also have opportunities to join career and technical student organizations (CTSOs), where they will learn leadership and citizenship principles. For more information about the opportunities offered at Steel Center, please visit the school's website.

Criteria for selection-

1. Must meet specific attendance and academic requirements
2. Recommended for students in grades 10 through 12

PENNSYLVANIA DEPARTMENT OF EDUCATION PROGRAMS OF STUDY (POS)

In accordance with the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Act), all postsecondary institutions receiving funds under the Act are required to award college-level credit or equivalent clock hours to a matriculated student and apply that credit toward the completion of the approved Pennsylvania Department of Education (PDE) Program of Study (POS), leading to an industry-recognized credential or certificate at the postsecondary level or an associate or baccalaureate degree. The purpose of this agreement is to ensure that students make the transition from a school entity (Steel Center) to another school entity, college or university, or a business/industry without experiencing delays in or duplication of learning. This agreement sets forth the terms and conditions for the awarding of college-level credit or equivalent clock hours to students who complete the approved PDE POS at a secondary school, so that those students can seamlessly continue their education in a related POS at a postsecondary institution. This agreement outlines the general conditions between secondary and postsecondary institutions.

STEEL CENTER
FOR CAREER AND TECHNICAL EDUCATION

Steel Center offers 18 career majors. Each major is based on state and/or locally approved curricula, inclusive of written (theoretical) activities, performance tasks, demonstration of work ethic, and professionalism. For each major, students may earn three (3) or more Carnegie Units (credits) per year, depending on local sending school district policies for credit acquisition. Students may also earn industry certifications and college credit in their respective programs. Steel Center's career majors are as follows, listed alphabetically by local title and accompanied by Pennsylvania Classification of Instructional Program (CIP) codes:

Advertising & Design ***(Program of Study)*** **Grades 10-12**
CIP Code: 50.0402, 3 or more credits/year.

Industry Certifications Available: Adobe Certified Associate CS6 Photoshop, InDesign, Illustrator, Adobe Premier Pro & Pennsylvania Skills Certification

An instructional program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via illustrations and other forms of printed media. This program includes instruction in concept design, layout, paste-up and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning, painting, collage and computer graphics.

Automotive Technology ***(Program of Study)*** **Grades 10-12**
CIP Code: 47.0604, 3 or more credits/year.

Industry Certifications Available: Pennsylvania State Automotive Safety Inspection, Pennsylvania State Emissions Inspection and EPA, Section 609 Certification for Refrigerant Recycling and Recovery & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills to engage in the servicing and maintenance of all types of automobiles and light trucks. This program includes instruction in the diagnosis and testing, including computer analysis, of malfunctions in and repair of engines, fuel, electrical, cooling and brake systems and drive train and suspension systems. Instruction is also given in the adjustment and repair of individual components and systems such as cooling systems, drive trains, fuel system components and air conditioning and includes the use of technical repair information and the state inspection procedures.

Baking/Pastry Chef ***(Program of Study)*** **Grades 10-12**
CIP Code: 12.0501, 3 or more credits/year.

Industry Certifications Available: ServSafe Manager Food Safety, ServSafe Food Handler, ServSafe Allergens, S/P2 Culinary Safety and Pollution Prevention, & Pennsylvania Skills Certification

Specialized classroom and practical work experiences associated with the preparation of breads, crackers, cakes, pies, pastries and other bakery products for retail distribution, for consumption

in a commercial food service establishment or for special functions. Instruction includes making, freezing and handling of bake products; decorating; counter display; and packaging of merchandise. This is a comprehensive program to prepare individuals for employment in a variety of occupations in the baking industry.

Building Trades Maintenance ***(Program of Study)*** **Grades 10-12**
CIP Code: 46.0401, 3 or more credits/year.

Industry Certifications Available: Pennsylvania Builder's Association Certification (PBA), OSHA-10 Hour Training CareerSafe, Forklift-Classes 1,4, 5 & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills to keep a building functioning, and to serve a variety of structures including commercial and industrial buildings and mobile homes. Instruction includes the basics of carpentry, millwork, plumbing, painting, glazing, electricity, plastering, welding, minor sheet metal, concreting, bricklaying, tile setting, hardware usage, heating, ventilation, waterproofing, roofing and record keeping.

Carpentry ***(Program of Study)*** **Grades 10-12**
CIP Code: 46.0201, 3 or more credits/year.

Industry Certifications Available: Pennsylvania Builder's Association Certification (PBA), OSHA 10 Hour Training CareerSafe, American Ladder Institute-Articulated Ladder, Mobile Ladder, Single Extension Ladder, Step Ladder, Stop the Bleed & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills to lay out, fabricate, erect, install and repair structures and fixtures using hand and power tools. This program includes instruction in common systems of framing, construction materials, estimating, blueprint reading and finish carpentry techniques.

Collision Repair and Refinishing ***(Program of Study)*** **Grades 10-12**
CIP Code: 47.0603, 3 or more credits/year.

Industry Certifications Available: S/P2 Collision Safety and Pollution Prevention, & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills to repair damaged automotive vehicles such as automobiles and light trucks. Students learn to examine damaged vehicles and estimate cost of repairs; remove, repair and replace upholstery, accessories, electrical and hydraulic window and seat operating equipment and trim to gain access to vehicle body and fenders; remove and replace glass; repair dented areas; replace excessively damaged fenders, panels and grills; straighten bent frames or unibody structures using hydraulic jacks and pulling devices; and file, grind and sand repaired surfaces using power tools and hand tools. Students refinish repaired surfaces by painting with primer and finish coat.

Computer Technology ***(Program of Study)*** **Grades 10-12**
CIP Code: 15.1202, 3 or more credits/year.

Industry Certifications Available: A+ Certification, Network+ Certification, & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply basic engineering principles and technical skills in support of professionals who use computer systems. This program includes instruction in basic computer design and architecture, programming, problems of specific computer application, component and system maintenance and inspection procedures, hardware and software problem diagnosis and repair and report preparation.

Cosmetology **(*Career & Technical Articulation Agreement with Douglas Education Center)*** **Grades 10-12**
CIP Code: 12.0401, 3 or more credits/year.

Industry Certifications Available: Cosmetology License, Manicurist, Esthetician, S/P2 Cosmetology Safety & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills related to experiences in a variety of beauty treatments including the care and beautification of the hair, complexion and hands. Instruction includes training in giving shampoos, rinses and scalp treatments; hair styling, setting, cutting, dyeing, tinting and bleaching; permanent waving; facials; manicuring; and hand and arm massaging. Bacteriology, anatomy, hygiene, sanitation, salon management including record keeping and customer relations are also emphasized. Instruction is designed to qualify pupils for the licensing examination.

Culinary Arts ***(Program of Study)*** **Grades 10-12**
CIP Code: 12.0508, 3 or more credits/year.

Industry Certifications Available: ServSafe Manager Food Safety, ServSafe Food Handler, S/P2 Culinary Safety and Pollution Prevention, & Pennsylvania Skills Certification

An instructional program that prepares students for employment related to institutional, commercial or self-owned food establishments or other food industry occupations. Instruction and specialized learning experiences include theory, laboratory and work experience related to planning, selecting, preparing and serving of quantity food and food products; nutritive values; use and care of commercial equipment; safety; and sanitation precautions. Instruction skills are provided to individuals desiring to become employed in all areas of the food service industry at entry level.

Diesel Technology ***(Program of Study)*** **Grades 10-12**
CIP Code: 47.0613, 3 or more credits/year.

Industry Certifications Available: Pennsylvania State Automotive Safety Inspection, Pennsylvania State Emissions Inspection and EPA, SP/2 Heavy Duty Safety and Pollution Prevention, Forklift-Classes 1, 4, 5 & Pennsylvania Skills Certification

A program that prepares individuals to apply technical knowledge and skills to the specialized maintenance and repair of trucks, buses, and other commercial and industrial vehicles. Includes instruction in diesel engine mechanics, suspension and steering, brake systems, electrical and electronic systems, preventive maintenance inspections, drive trains, HVAC systems, and auxiliary equipment installation and repair.

Electrical Construction ***(Program of Study)*** **Grades 10-12**
CIP Code: 46.0399, 3 or more credit/year.

Industry Certifications Available: Pennsylvania Builder's Association Certification (PBA) & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills necessary to install, operate, maintain and repair electrically-energized residential, commercial and industrial systems, and DC and AC motors, controls and electrical distribution panels. Instruction emphasizes practical application of mathematics, science, circuit diagrams and use of electrical codes and includes blueprint reading, sketching and other subjects essential for employment in the electrical occupations. Reading and interpretation of commercial and residential construction wiring codes and specifications, installation and maintenance of wiring, service and distribution networks within large construction complexes are also critical components of the program.

Health Assistants ***(Program of Study)*** **Grades 10-12**
CIP Code: 51.0899, 3 or more credits/year.

Industry Certifications Available: Patient Care Technician/PCT, Basic Life Support Health Care Providers, & Pennsylvania Skills Certification

A cluster program with a combination of subject matter and experiences designed to prepare individuals for entry-level employment in a minimum of three related health occupations under the supervision of a licensed health care professional. Instruction consists of core course content with clinical experiences in one or two health related occupations. The core curriculum consists of planned courses for introduction of health careers, basic anatomy and physiology, medical terminology, legal and ethical aspects of health care and communications and at least three planned courses for the knowledge and skills for the occupational area such as medical assisting, ward clerk, nursing assisting, etc.

Heating, Ventilation, Air Conditioning & Refrigeration ***(Program of Study)*** **Grades 10-12**
CIP Code: 47.0201, 3 or more credits/year.

Industry Certifications Available: EPA 608 Technician Certification, Pennsylvania Builder's Association Certification (PBA), & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills to install, repair and maintain commercial and domestic heating, air conditioning and refrigeration systems. Instruction includes theory and application of basic principles involved in conditioning of air (cooling and heating); filtering and controlling humidity; operating characteristics of various units and parts; blueprint reading; use of technical reference manuals; the diagnosis of malfunctions; overhaul, repair and adjustment of units and parts such as pumps, compressors, valves, springs and connections; and repair of electric/electronic and pneumatic control systems.

Medical Professions ***(Program of Study)*** **Grades 10-12**
CIP Code: 51.9999, 3 or more credits/year.

Industry Certifications Available: To be determined, but may include the following: Basic Life Support (BLS), Pharmacy Technician (CPhT), EKG Technician (CET), Phlebotomy Technician (CPT), Nurse Technician (CNT), & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply knowledge and skills in the health occupations. Instruction is provided in the basic skills in a variety of areas associated with health occupations such as health and medical services, pharmaceutical and medical instruments and supplies. Instruction includes but is not limited to foundations of health (medical terminology); anatomy and physiology; legal, ethical and economic aspects of health care; clinical laboratory procedures; basic health occupational skills; aseptic techniques; OSHA regulations; and infection control. Clinical education is an integral part of the program. Science and math taught by certificated science and math teachers will be coordinated and deemed essential for students to successfully reach their career objectives.

Public Safety ***(Career & Technical Articulation Agreement with Penn Commercial Business/Technical School)*** **Grades 10-12**
CIP Code: **51.0904*****, 3 or more credits/year.***

Industry Certifications Available: Emergency Medical Technician, National Incident Management System, Basic Life Support Health Care Providers, CPR-American Heart Association, Stop the Bleed, American Ladder Institute-Articulated Ladder, Mobile Ladder, Single and Extension Ladder & Hazardous Materials Response Awareness

A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise ambulance personnel. Students will learn about basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries;

communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations. Students will also learn fundamentals of police operations and fire protection, as well as technical and vehicle rescue. Physical development and self-confidence are emphasized due to the nature of the specific occupation(s) associated with public safety.

Sports Medicine & Rehabilitation Professions ***(Career & Technical Articulation Agreement with California University)*** **Grades 10-12**
CIP Code: 51.2604, 3 or more credits/year.

Industry Certifications Available: To be determined, but may include the following: American Heart Association (AHA) Heartsaver First Aid, AHA CPR, HIPAA Certification, American Medication Certification Association (AMCA) Physical Therapy Aide, & Pennsylvania Skills Certification

A program that prepares individuals to assist in rehabilitation services under the supervision of physical therapists, occupational therapists, speech-language pathologists, and other therapeutic professionals, and to perform routine functions in support of rehabilitation. Includes instruction in roles and responsibilities of rehabilitation providers, basic function of the human body, disabling conditions, therapeutic skills, client management, and communication skills.

Veterinary Assistant ***(Program of Study)*** **Grades 10-12**
CIP Code: 01.8301, 3 or more credits/year.

Industry Certifications Available OSHA-10 Health Care, Red Cross Pet Tech First Aid, Purina Weight Coach, Fear Free & Pennsylvania Skills Certification

An instructional program that prepares individuals to support veterinarians by providing assistance during animal examinations, treatment administration and monitoring; by keeping animal and related health record information; and by performing a range of selected practice-related duties. This program is designed to provide instruction in preparing the animal for examination and treatment, sterilizing equipment and performing selected routine laboratory procedures under direct supervision of the veterinarian. Instruction also includes maintaining medical and business records, charting and scheduling activities and a wide range of practice-related duties as applied to animal health care, the biomedical field and the pet industry. The health occupational planned courses include the study of life sciences with emphasis on animal anatomy, physiology, diseases, reproduction, genetics, nutrition, animal laboratory procedures, aseptic technique, OSHA regulations, infection control and procedures. Clinical education is an integral part of the program. Science and math taught by certificated science and math teachers will be coordinated and deemed essential for students to successfully reach their career objectives.

Welding *(Program of Study)* **Grades 10-12**
CIP Code: 48.0508, 3 or more credits/year.

Industry Certifications Available: AWS Certification, SP/2 Welding Safety Pollution and Prevention, & Pennsylvania Skills Certification

An instructional program that prepares individuals to apply technical knowledge and skills in gas, arc, shielded and non-shielded metal arc, brazing, flame cutting and plastic welding. Hand, semi-automatic and automatic welding processes are also included in the instruction. Students learn safety practices and types and uses of electrodes and welding rods; properties of metals; blueprint reading; electrical principles; welding symbols and mechanical drawing; use of equipment for testing welds by ultrasonic methods and destruction and hardness testing; use of manuals and specification charts; use of portable grinders and chemical baths for surface cleaning; positioning and clamping; and welding standards established by the American Welding Society, American Society of Mechanical Engineers and American Bureau of Ships.

HIGH SCHOOL CLASS SCHEDULE

7:30 a.m.	Students permitted in building
7:55 a.m.	Warning tone
8:00 – 8:46 a.m.	First period
8:50 – 9:32 a.m.	Second period
9:36 – 10:18 a.m.	Third period
10:22 – 11:04 a.m.	Fourth period
11:08 – 11:50 a.m.	Fifth period
11:54 – 1:06 p.m.	Sixth period

11:50 - 12:20	A Lunch
12:24 - 1:06	Class
11:54 – 12:36	Class
12:36 – 1:06	B Lunch

1:10 – 1:52 p.m.	Seventh period
1:56 – 2:45 p.m.	Eighth period

Brentwood High School
Grades 9, 10, 11, and 12

Dr. Jason Olexa
High School Principal

Mr. Ted Ulmer
Middle/High School Assistant Principal

Ms. Linda Capozzoli
High School Counselor

The Brentwood Borough School District is an equal opportunity Educational institution and will not discriminate on the basis of race, color, national origin, sex, or disability in it activities, programs or employment practices as required by Title VI, Title IX, and Section 504.