Chesapeake Math & IT South High School

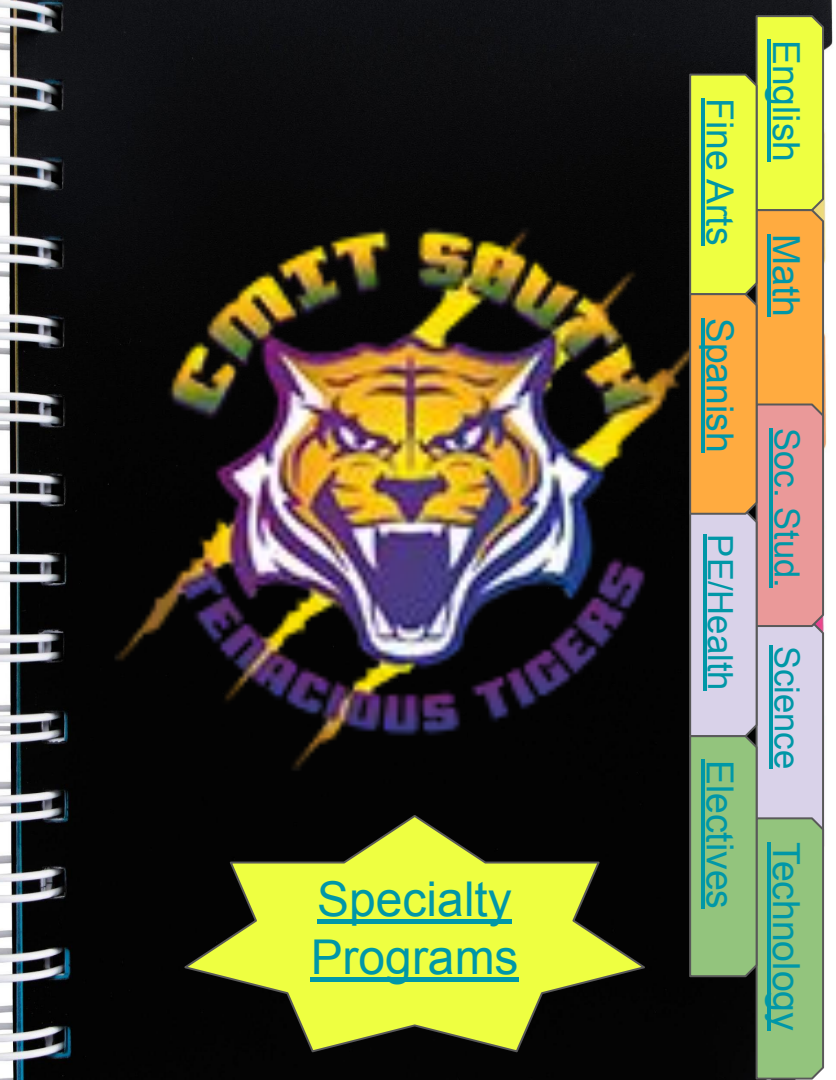
Interim Principal: Dr. Glenda Washington

2021-2022 Course Catalog

***Catalog links will work best if you select "Present" in order to browse.*

***Select the Tiger on any page in order to return to this home page.*

***Select the name of a category or course to be directed to that page.*



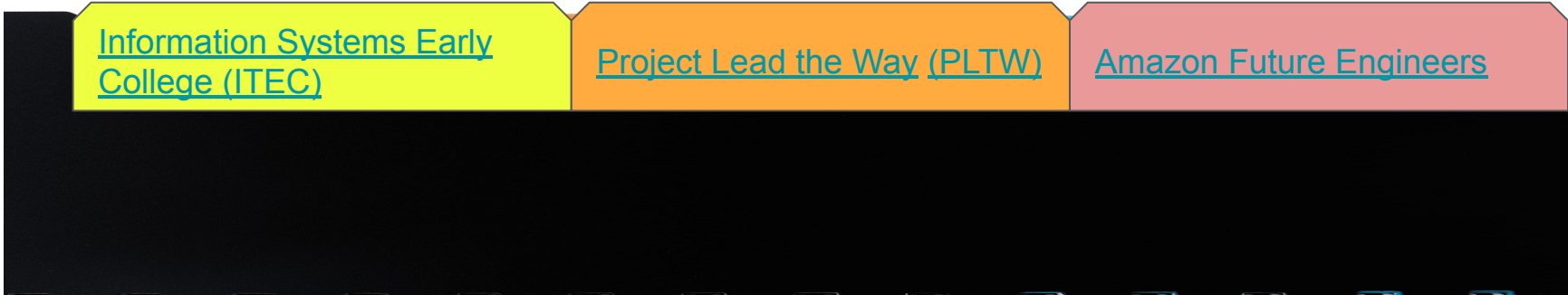
Chesapeake Math & IT South High School

Specialty Programs

Information Systems Early College (ITEC)

Project Lead the Way (PLTW)

Amazon Future Engineers



Information Technology Early College

In Fall 2014, with grant support from the Maryland State Department of Education (MSDE) and Maryland four-year colleges, businesses, and county government partners, PGCC started the Information Technology Early College (ITEC) Program. The ITEC Program is comprised of students who attend the Chesapeake Math and Information Technology (C-M-I-T) Academy, a public charter school in Laurel, Maryland. The ITEC Program is designed to enroll students in grades 9-12. The current ITEC dual enrollment curriculum follows a track of the PGCC Information Technology A.A.S. in which students take courses that result in multiple industry certifications. Students have the opportunity to graduate at the end of four years with a high school diploma and an associate degree in Information Technology.

Course Pathway:

- 1st Year: Students take one course (3 credits) per semester - 6 credits
- 2nd Year: Students take two courses (3 credits each) per semester - 12 credits
- 3rd Year: Students take 3 courses in the fall and four courses in the spring - 21 credits
- 4th Year: Students take 4 course in the fall and three courses in the spring - 22 credits

Project Lead the Way

PLTW Engineering empowers students to step into the role of an engineer, adopt a problem-solving mindset, and make the leap from dreamers to doers. The program's courses engage students in compelling, real-world challenges that help them become better collaborators and thinkers. Students take from the courses in-demand knowledge and skills they will use in high school and for the rest of their lives, on any career path they take.

<u>Pathway consists of five courses over four years.</u>

- Introduction to Engineering Design (IED) - 9th
- Principles of Engineering (POE) - 10th
- Civil Engineering and Architecture (CEA) - 11th
- Digital Electronics (DE) - 11th
- Engineering Design Development (EDD) - 12th

Amazon Future Engineers

Amazon Future Engineer currently provides more than 2,000 schools that serve students from underrepresented and underserved communities across the country with Intro to Computer Science and AP Computer Science classes. The full-year courses are designed to inspire, prepare, and propel students in their pursuit of a computer science education.

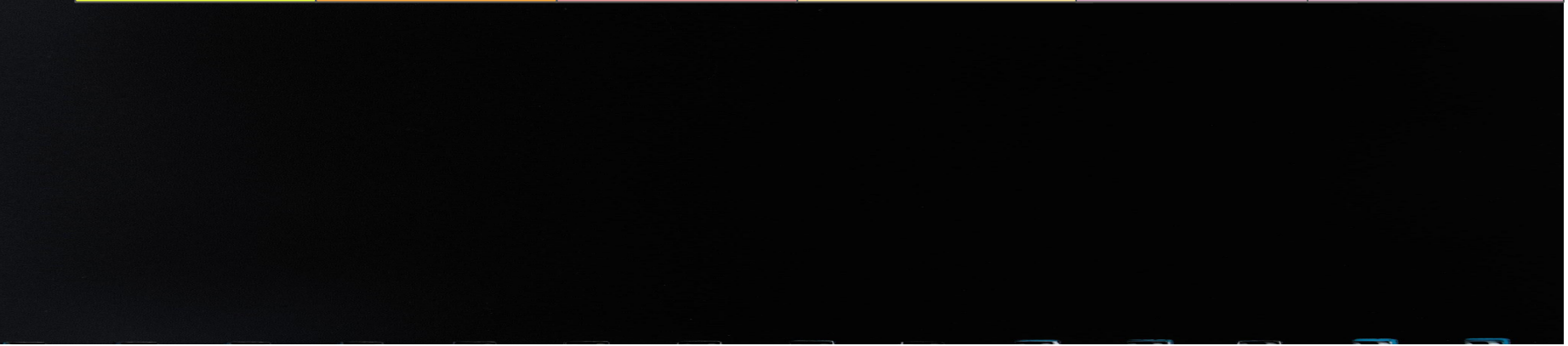
Amazon is committed to helping more students, especially students from underrepresented and underserved communities, have the resources and skills they need to build their best futures. Amazon is known for its long-term thinking style and we know that coding is the language of the future. Additionally, STEM education and computer science are ingrained into the work many Amazon employees rely on day in and day out.

Pathway consists of four courses over four years.

- Java Fundamentals - 9th
- AP Computer Science Principles - 10th
- AP Computer Science A - 11th
- Android App Development - 12th

English

English 9 | English 10 | English 11 | AP Lang & Comp. | English 12 | AP Literature



Return

English 9

Credits: 1.0 English

This course is designed to move students towards mastery of the grade level English Language Arts Maryland College and Career Readiness Standards. Students will read complex texts that are fictional and informational. Students will read closely to analyze texts to prepare for writing tasks that include Literary Analysis, Narrative Analysis, and Research Simulation. Students will also develop skills in language and speaking and listening.

Return

English 10

Credits: 1.0

This course is designed to move students towards mastery of the grade level English Language Arts Maryland College and Career Readiness Standards. Students will read complex texts that are fictional and informational. Students will read closely to analyze texts to prepare for writing tasks that include Literary Analysis, Narrative Analysis, and Research Simulation. Students will also develop skills in language and speaking and listening.

Honors - Prerequisites: Placement should be based on the following criteria (It is recommended that 3 of the 6 following criteria be met): Successful completion of full-year English Grade 9 Honors or an A/B average in full-year English 9; Teacher Recommendation; Counselor Recommendation; Proficiency on Systemic Assessments; Parent/Student Request; Proficiency with or desire to complete challenging assignment.

Return

English 11

Credits: 1.0

This course is designed to move students towards mastery of the grade level English Language Arts Maryland College and Career Readiness Standards. Students will read complex texts that are fictional and informational. Students will read closely to analyze texts to prepare for writing tasks that include Literary Analysis, Narrative Analysis, and Research Simulation. Students will also develop skills in language and speaking and listening.

Honors - Prerequisites: Successful completion of full-year English 10; Placement should be based on the following criteria (It is recommended that: 3 of the 6 following criteria be met): Successful completion of full-year RELA English Grade 10 Honors or an A/B average in full-year English 10; Teacher Recommendation; Counselor Recommendation; Proficiency on Systemic Assessments; Parent/Student Request; Proficiency with or desire to complete challenging assignments.

Return

Advanced Placement Language and Composition

Credits: 1.0 Weighted

Designed to prepare students to compete successfully in Advanced Placement, this course will present challenging reading and writing experiences similar to those on advanced placement tests and will use language and writing experiences similar to those found on the AP language test. There will be extensive reading and writing opportunities with an emphasis on analysis of language. Students completing the course are encouraged to take the Advanced Placement examination.

Return

English 12

Credits: 1.0

This course is designed to move students towards mastery of the grade level English Language Arts Maryland College and Career Readiness Standards. Students will read complex texts that are fictional and informational. Students will read closely to analyze texts to prepare for writing tasks that include Literary Analysis, Narrative Analysis, and Research Simulation. Students will also develop skills in language and speaking and listening.

Return

Advanced Placement Literature and Composition

Credits: 1.0 Weighted

Designed to prepare students to compete successfully in advanced placement, this course will present challenging reading and writing experiences similar to those on advanced placement tests and will use literature similar to that found on the test. There will be extensive reading and writing opportunities, focusing on literary analysis. It is hoped that all students taking the course will also take the Advanced Placement examination.

Math

Algebra 1 | Geometry | Algebra 2 | Pre Calculus | AP Calc. | Prob. & Stats. | AP Stats.

Return

Algebra 1

Credits: 1.0

Algebra 1 formalizes and extends the mathematics students learned in the middle grades. Six critical areas comprise Algebra 1: Relationships Between Quantities and Reasoning with Equations, Linear Functions, Exponential Functions, Quadratic Functions, Descriptive Statistics, and a survey of other Nonlinear Functions. The critical areas deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend, and students engage in methods for analyzing, solving, and using quadratic functions. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Return

Geometry

Credits: 1.0

Geometry formalizes and extends students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. Six critical areas comprise the Geometry course: Congruence, Proof and Constructions, Connecting Algebra and Geometry through Coordinates, Similarity, Proof and Trigonometry, Extending to Three Dimensions, and Circles With and Without Coordinates. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. Students must pass Algebra I to enroll in Geometry. Students must pass Geometry to enroll in Financial Algebra or Algebra 2.

Return

Algebra 2

Credits: 1.0

Algebra 2 continues to work with linear, quadratic, and exponential functions. Students extend their repertoire of functions to include polynomial, rational, radical, and trigonometric functions. In this course rational functions are limited to those whose numerators are of degree at most one and denominators of degree at most 2; radical functions are limited to square roots or cube roots of at most quadratic polynomials. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. Students must successfully complete Geometry before they can enroll in Algebra 2. 362433 Support Inclusion - This co

Return

Pre Calculus

Credits 1.0

Pre-Calculus focuses on standards to prepare students for a more intense study of mathematics. The critical areas, organized in six units, delve deeper into content from previous courses. The six units are polynomial, rational, and radical functions; exponential and logarithmic functions, trigonometric functions; analytic geometry; matrix algebra; and sequences, series, and limits. Students synthesize their conceptual understanding of algebraic and transcendental function families. This improved understanding of functions is applied to solving real world problems that require students to build and/or interpret functions. Students also improve their understandings of the properties of mathematics that allow them to hone their ability to manipulate algebraic expressions, equations and inequalities. The study of circles and parabolas is extended to include other conics such as ellipses and hyperbolas. Trigonometric functions are further developed to include inverses, general triangles and identities. Matrices provide an organizational structure in which to represent and solve complex problems. Students expand the concepts of complex numbers and the coordinate plane to represent and operate upon vectors. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. Students must successfully complete Algebra 2 before they can enroll in Precalculus.

Return

Advanced Placement Calculus

Credits 1.0 Math, Weighted

Students who study AP Calculus (BC) will learn all of the topics covered in AP Calculus (AB) as well as the analysis of planar curves given in parametric form, polar form, and vector form; geometric interpretation of differential equations via slope fields; advanced techniques for antidifferentiation; models for logistic growth; and the convergence and divergence of series including the use of Taylor polynomials. The Advanced Placement Calculus BC exam is expected of all students in this course. Students must successfully complete Pre-Calculus before they can enroll in AP Calculus BC. Check www1.pgcps.org/dualenrollment for dual credit updates. T

Return

Probability and Statistics

Credits 0.5

In this semester course, students will study descriptive and inferential statistics. Students will explore topics including descriptive statistics, probability, normal distribution, confidence intervals, hypothesis testing, and regression . Students will use graphing calculators in activities that are appropriate to the topics being studied. This course may be paired with Maryland College and Career Ready Mathematics or Trigonometry. Students must successfully complete Algebra 2 before they can enroll in Probability and Statistics.

Credits: 1.0

This course provides an elementary introduction to probability and statistics with applications in both descriptive and inferential statistics. Students will explore topics including descriptive statistics, probability, probability distributions, normal distribution, confidence intervals, hypothesis testing, correlation, and regression . Students will use graphing calculators in activities that are appropriate to the topics being studied. Students must successfully complete Algebra 2 before they can enroll in Probability and Statistics. Textbook(s): Statistics

Return

Advanced Placement Statistics

Credits: 1.0 Math, Weighted

The AP Statistics course is an excellent option for any student who has successfully completed Algebra 2, Probability Statistics or Trigonometry. This course is comprised of four content themes: exploring data to describe patterns and departures from patterns, sampling and experimentation to plan and conduct a study, anticipating patterns by exploring random phenomena using probability and simulation, and statistical inference through estimating population parameters and testing hypotheses. The Advanced Placement Statistics exam is expected of all students in this course. Students must successfully complete Algebra 2 before they can enroll in AP Statistics.

Social Studies

US History | LSN Govt. | AP Amer. Govt. | World History

Return

US History

Credits: 1.0

This course examines how the American political, economic, and social systems developed. Twentieth century content includes issues related to the development of foreign policy, the role of the United States as a world leader, and the domestic response to a diversified population and issues such as reform and civil rights.

Honors - Prerequisites: United States History I; Student that meets 3 of the 6 following criteria: A/B average in previous year's Social Studies course; Advanced on previous year's SRI score; Social Studies Teacher recommendation and/or advocacy; 60% or greater on previous year's Social Studies Post SLO assessment; Student personal statement/letter of interest; Student expresses desire and motivation, work ethic; In most cases, students who are identified as TAG will be placed in an Honors course with these exceptions: there is not an interest in taking the course (perhaps domain-specific strength is in Math), student is reading significantly below reading level.

Return

Local, State, and National Government

Credits: 1.0

This year-long course provides students with a comprehensive examination of the basic concepts and principles of our federal system of government. Course study includes a focus on the foundations of government; an overview of the United States political system; study of the legislative, executive, and judicial branches of government; explanation of citizenship rights and responsibilities; examination of structure and functions of state and local governments; and study of global perspective on governmental relationships. Students will take the High School Assessment in Government at the end of this course.

Honors - Prerequisites: United States History, Student that meets 3 of the 6 following criteria: A/B average in previous year's Social Studies course; Advanced on previous year's SRI score; Social Studies Teacher recommendation and/or advocacy; 60% or greater on previous year's Social Studies Post SLO assessment; Student personal statement/letter of interest; Student expresses desire and motivation, work ethic; In most cases, students who are identified as TAG will be placed in an Honors course with these exceptions: there is not an interest in taking the course (perhaps domain-specific strength is in Math), student is reading significantly below reading level.

Return

Advanced Placement American Government and Politics

Credits: 1.0 Weighted

The Advanced Placement course in American Government and Politics is designed to give students a critical perspective on politics and government in the United States. This course involves both the study of general concepts used to interpret American politics and the analysis of specific case studies. It also requires familiarity with the various institutions, groups, beliefs, and ideas that make up the American political reality. Course topics to be included are: constitutional underpinnings of American government, political beliefs and behaviors, political parties and interest groups, institutions and policy processes of national government, civil rights and civil liberties. This course will prepare students for the AP exam and the Government HSA.

Return

World History

Credits: 1.0

This course focuses on modern world history beginning approximately 1400 AD. The course is based on four major themes: human interactions; hemispheric interactions; crisis, progress and change in the 20th century; and the challenges of the 21st century.

Honors - Prerequisites: Local, State, and National Government; Student that meets 3 of the 6 following criteria: A/B average in previous year's Social Studies course; Advanced on previous year's SRI score; Social Studies Teacher recommendation and/or advocacy; 60% or greater on previous year's Social Studies Post SLO assessment; Student personal statement/letter of interest; Student expresses desire and motivation, work ethic; and in most cases, students who are identified as TAG will be placed in an Honors course with these exceptions: there is not an interest in taking the course (perhaps domain-specific strength is in Math), student is reading significantly below reading level.

Science

Biology | AP Biology | Hon. Chemistry | Biogeochem Sys. | Environ. Sci. | AP Env. Sci.

Return

Biology

Credits: 1.0 Life Science

This course is designed to emphasize the study of the interrelationships of living organisms with respect to their environment. Students will engage in laboratory investigations, scientific discussions, and phenomena based instruction in order to apply science and engineering practices and crosscutting concepts of the Next Generation Science Standards (NGSS) to explain cell structures and processes, ecosystem interactions, inheritance of traits, and evolution. Students will use observations, experiments, models, theories, and technology to make sense of the natural world. Emphasis is placed on important biological and geophysical phenomena that support the understanding of the cycling of matter and flow of energy in living organisms, gene expression, and biodiversity. This course will also involve students developing solutions to authentic problem-based life science issues and investigations, while exploring career opportunities in Science, Technology, Engineering, and Mathematics (STEM)

Return

AP Biology

Credits: 1.0 Weighted

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions. The AP Biology course is equivalent to a two-semester college introductory biology course for biology majors. This course requires that 25 percent of the instructional time will be spent in hands-on laboratory work, with an emphasis on inquirybased investigations that provide students with opportunities to apply the science practices.

Return

Honors Chemistry

Credits: 1.0 Science

Honors Chemistry S/T is laboratory-based science class in which students will study the structure and properties of matter as they explore chemical reactions, the structure of atoms, conservation and interactions of energy and matter. This course continues the journey into research and open-ended experimentation for the science and technology student. The course follows PGCPS Honors Chemistry Course derived from Next Generation Science Standards (NGSS) with curricular additions that provide additional opportunities for students to engage in problem based learning, and utilize STEM processes and standards of practices. Honors Chemistry S/T emphasizes laboratory orientation, concept development and career study.

Return

Biogeochemical Systems

Credits: 1.0 Earth and Space Science or Physical Science

This course is designed to illustrate the role of chemical processes, inclusive of photosynthesis and cellular respiration, in the cycling of carbon among Earth's spheres. Students will explore the study of matter and its interactions, motion, stability, and force through laboratory investigations, scientific discussions, and phenomena based instruction. Students will apply the science and engineering practices and crosscutting concepts of the Next Generation Science Standards (NGSS) to explain systems interactions: the flow of energy among organisms in an ecosystem, the control of weather and climate with a major emphasis on the mechanisms and implications of climate change, and the importance of biological and geophysical phenomena that support student explanations of chemical processes such as the release of energy. This course will involve students developing solutions to authentic problem-based science issues and investigations, while exploring career opportunities in Science, Technology, Engineering, and Mathematics (STEM). *Content from Biogeochemical Systems and the 9th Grade Biology course will be assessed on the High School Maryland Integrated Science Assessment (MISA).

Return

Environmental Science

Credits: 1.0 Earth and Space Science or Physical Science

This course is designed as a comprehensive, contemporary environmental science course with emphasis on fieldwork and data collection and analysis. Students will apply science and engineering practices and crosscutting concepts of the Next Generation Science Standards (NGSS) to local and global to real-world environmental science issues. Students will also investigate the natural environment and the interrelationships among natural systems including biodiversity and population dynamics. This course will involve students developing solutions to authentic problem- based Environmental issues and investigations, while also exploring career opportunities in Science, Technology, Engineering, and Mathematics (STEM).

Return

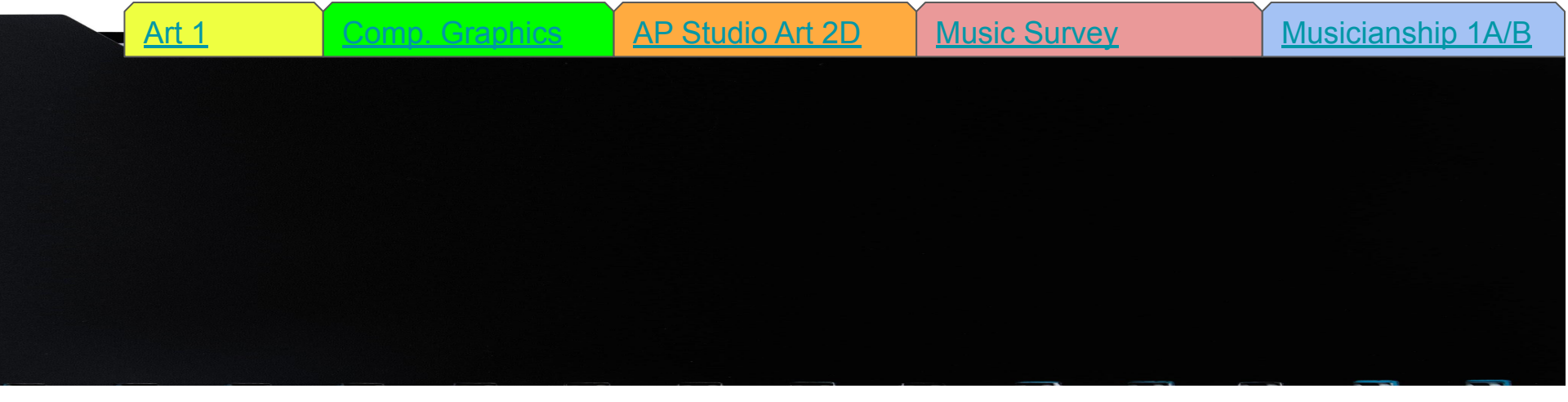
Advanced Placement Environmental Science

Credits: 1.0

The AP Environmental Science course is designed to engage students with the scientific principles, concepts, and methodologies required to understand the interrelationships within the natural world. The course requires that students identify and analyze natural and human-made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry, and geography. The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. Although there are no 151 Prince George's County Public Schools • High School Course Offerings and Programs of Study • Fall 2020 specific AP Environmental Science labs or field investigations required for the course, it is required that students have the opportunity to spend a minimum of 25% of instructional time engaged in hands-on, inquiry-based laboratory and/or fieldwork investigations.

Fine Arts

Art 1	Comp. Graphics	AP Studio Art 2D	Music Survey	Musicianship 1A/B



Return

Art 1

Credits: 1.0 Fine Art

Art 1 is designed as an entry-level course for the high school student. The curriculum provides a broad base of art experiences including: design, drawing, printmaking, painting, sculpting, lettering and crafts. Each art unit includes both a sequentially structured, hands-on experience, art vocabularies and a theoretical section that relates the cultural, historical, aesthetic significance, and critical analysis of the art form. The emphasis in each unit is on the development of fundamental concepts, technical and problem-solving skills. The course concludes with an introduction to careers in art. All students will be expected to maintain a journal/sketchbook.

Return

Computer Graphics

Credits: 2.0 Fine Art

This course consists of traditional studio and computer laboratory experience. As an introduction to the basic components of graphic design, the course emphasizes visual communication and creative problem solving along with the integration of other disciplines. The student is given a structured introduction to a variety of graphic materials, instruments, vocabulary and method and presentation techniques. Development of skills in lettering, composition and layout is integrated into the assignments. The student develops primary skills associated with computer operation and explores the computer imaging systems as an artist's tool. Career and cultural influences will be emphasized. Computer typography, desktop publication, animation, sound integration and digitized imagery will be covered in the course. All students will be expected to maintain a journal/sketchbook.

Return

Advanced Placement Studio Art 2D

Credits: 1.0 Fine Art; Weighted

The Advanced Placement Studio Art Program enables highly motivated students to do college level work in studio art while still in high school. AP Studio Art students submit a portfolio of work for evaluation at the end of the school year. This rigorous program is intended for students seriously committed to studying art. Portfolios are evaluated on high-quality selected works, and a sustained investigation demonstrated through practice, experimentation, and revision. All students will be expected to maintain a journal/sketchbook.

Return

Music Survey

Credits: 0.5, 1.0 Fine Art

This course is a full-year or semester course for the student who wishes to become a knowledgeable consumer of music. Students will explore performing artists and composers from the Renaissance through today and the various genres they represent. This course will also include the fundamentals of music literacy.

Return

Musicianship

Credits: 0.5 **1A**

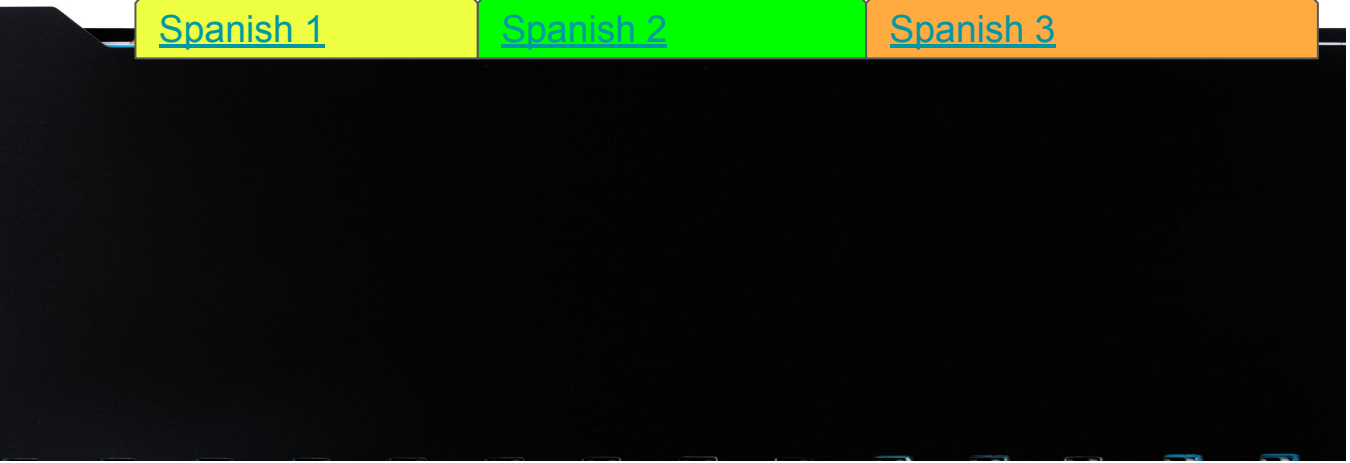
This is a beginning semester course in music that includes theory, ear training, dictation, and analysis of simple musical form and structure

Credits: 0.5 **1B**

This is a continuation of the beginning semester course that includes theory, ear training, dictation, and analysis of simple form and structure.

Spanish

Spanish 1 | Spanish 2 | Spanish 3



Return

Spanish 1

Credits: 1.0 World Language

In the first year of Spanish communication and the sounds of the language are learned through dialogues, learning scenarios, practice exercises, and real-life situations. The students learn to understand, speak, read, and write a limited amount of material. Students will learn to apply grammatical principles of the language to form new ideas and to communicate them. Cultural information about the countries is taught as a part of the content.

Return

Spanish 2

Credits: 1.0 World Language

The development of skills begun in the first year of Spanish is continued. Greater emphasis is placed on oral proficiency, listening, reading and writing in Spanish. Knowledge of grammar is expanded, including object pronouns and most of the verb tenses beyond the present. Cultural information is taught through basic content readings and supplementary materials.

Spanish 2 Honors

Prerequisites: Spanish 1; MSA Reading score at the advanced level; most recent PARCC Reading Score at the Advanced Level Credits: 1.0 World Language; Weighted This course is designed for identified selected highly able students who have met the prerequisites. Lessons and units include activities and a writing component that will enhance students' skills.

Return

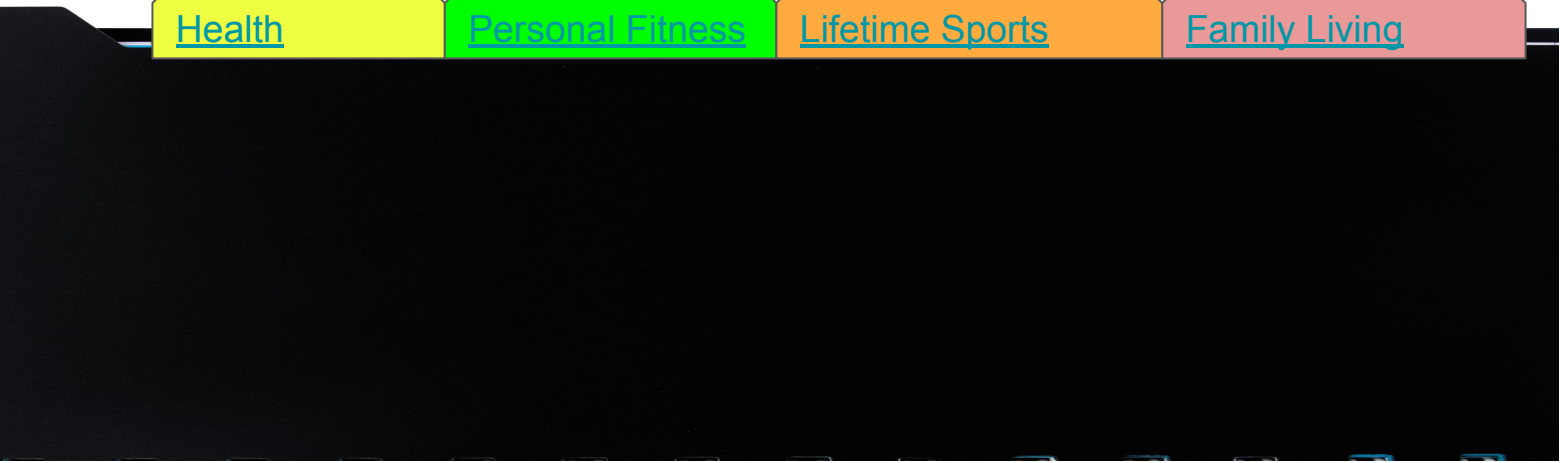
Spanish 3

Credits: 1.0 World Language

By the third level of Spanish students are required to use the language in class conversations and read both fiction and nonfiction, including magazines and newspapers. Learning of vocabulary is greatly expanded. Some supplementary reading is required. Basic grammar is reviewed and more complex structure is taught. Cultural projects are to be carried out in the foreign language. Students are expected to write coherent paragraphs, short summaries, and outlines in foreign language. Frequent testing of listening and reading comprehension is expected in this course. Check www1.pgcps.org/dualenrollment for dual credit updates.

PE/Health

Health | Personal Fitness | Lifetime Sports | Family Living



Return

Health

Credits: 0.5 Health

This semester course equips students with the skills to access valid health information and to identify the impact of family, peers, culture, media and technology on health behaviors. Through these skills, students are able to develop a functional knowledge of the core health concepts of personal and consumer health, mental and emotional health, nutrition and fitness, family life and human sexuality, first aid and safety, substance abuse prevention and disease prevention and control. All students are required to complete the Health Issues course to satisfy the half credit graduation requirement. Students cannot earn credit for this course by examination.

Return

Personal Fitness

Credits: 0.5

Physical Education The course will provide students with the opportunity to explore their personal fitness levels, engage in lifetime physical activities, analyze their personal well-being, nutritional choices and attitudes observed during social physical activities which can be measured by the Healthy Fitness Zone component of Fitnessgram. The students will use the knowledge they gain to develop a well-rounded personal fitness plan that will support living an active healthy lifestyle.

Return

Lifetime Sports

Credits: 0.5

Elective Students will experience a variety of activities which will provide them with the skills and knowledge necessary to successfully participate in leisure time activities throughout life. Activities in this course must be offered as co-educationally

Return

Family Living

Credits: 0.5 Elective

Family Living is a half-credit, dynamic health education elective course designed to meet the needs of seniors and mature eleventh grade students. This seminar type discussion oriented course examines personal development, independent living, relationships, marriage, pregnancy, parenthood, and family crises. Through a process of introspection and self-discovery, this course facilitates the development of a greater appreciation and understanding of what it takes to create and maintain healthy relationships.

Technology

Fond. of Tech	Introduction to Eng. Design	Princ. Of Eng.	Digital Electronics	Civil Eng. & Architecture
JAVA Fund.	Found. of Comp. Sci.	AP Comp. Sci A.	AP Comp. Sci. Princ.	Web Dev.
Android Apps.	Web. Design	Eng. Design & Dev.		

Return

Foundations Of Technology

Credits: 1.0 Technology Education

This course uses engineering design activities to help students understand how criteria, constraints, and processes affect design solutions and provide students with skills to systematically assess technological developments or solutions. Course topics may include brainstorming, visualizing, modeling, simulating, constructing, testing, and refining designs.

Return

Java Fundamentals

Credits: 1.0 IT Computer Information Systems CTE

This course engages students with little or no programming experience to create Java programs. Participants are introduced to object-oriented programming concepts, terminology, and syntax, and the steps required to create basic Java programs using the Alice,Greenfoot, and Eclipse interactive development environments. Hand-on practices figure prominently throughout this course so students can experience firsthand the power of computer programming

Return

Android Applications

Credits: 1.0 Elective

This course will teach application development on Android platform using the Java Programming Language and the Eclipse Development Environment. Students will build on the knowledge of Java programming acquired during AP Computer Science and learn basics of Android platform, application life cycle. They will learn how to build widgets and apps using phone camera, geo-location tools, and playing audio and video files. Students will work on a project to build an app using advanced Android controls including - forms, dialogs, geolocation, map view, and audio–video controls. T

Return

Introduction to Engineering Design

Credits: 1.0 Completer

Introduction to Engineering Design emphasizes the development of a design. Students use computer software to produce, analyze and evaluate models of projects solutions. They study the design concepts of form and function, and then use state-of-the-art technology to translate conceptual design into reproducible products.

Return

Foundation of Computer Science

Credits: 1.0 Technology Education

The Foundations of Computer Science course is designed to provide students with the breadth of computer science. Students are introduced to a broad base of computer science topics including website development, programming, processing languages, robotics, and CyberSecurity. In addition to laying the groundwork for Advanced Placement courses in computer science, students will engage in activities designed to develop problem solving skills and gain understanding of CyberSecurity principles necessary for 21st century careers.

Return

Web Design

Credits: 0.5 Elective

This semester course will provide students the opportunity to develop professional skills in developing and maintaining Web pages. Students will use web page development tools to design their own web pages. Students will obtain a marketable skill which may be utilized to obtain an entry-level position in the world of work.

Return

Principles of Engineering

Credits: 1.0 Completer

Technology Education Credit Principles of Engineering provides an overview of engineering and engineering technology. Students develop problem-solving skills by tackling real-world engineering problems. Through theory and practical hands-on experiences, students address the emerging social and political consequences of technological change.

Return

Advanced Placement Computer Science A

Credits: 1.0 IT Computer Information Systems CTE

This full year course provides programming experiences, which include features of programming languages, data types and structures, algorithms, applications of computing, games, and computer systems. The programming language taught in this course is JAVA. This course prepares a student to take the AP Computer Science Exam. The Advanced Placement Computer Science exam is expected of all students in this course. Students must successfully complete Algebra 2 before they can enroll in Advanced Placement Computer Science.

Return

Engineering Design and Development

Credits: 1.0, Weighted;

Completer This capstone course enables students to apply what they have learned in academic and pre-engineering courses as they complete challenging, self-directed projects. Students work in teams to design and build solutions to authentic engineering problems.

Return

Digital Electronics

Credits: 1.0, Weighted; Completer

Digital Electronics introduces students to applied digital logic, a key element of careers in engineering and engineering technology. This course explores the smart circuits found in watches, calculators, video games and computers.

Return

Advanced Placement Computer Science Principles

Credits: 1.0 IT Computer Information Systems CTE

CSP aims to develop computational thinking, generate excitement about career paths that use computing, and introduce professional tools that foster creativity and collaboration. The course also aims to build students' awareness of the tremendous demand for computer specialists and for professionals in all fields who have computational skills. Each unit focuses on one or more computationally intensive career paths. The course aims to engage students to consider issues raised by the present and future societal impact of computing. Students use Python® as a primary tool and incorporate multiple platforms and languages for computation. Students practice problem solving with structured learning experiences and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

Return

Civil Engineering & Architecture

Credits: 1.0, Weighted;

Completer This is a specialization course that provides an overview of the fields of civil engineering and architecture, while emphasizing the interrelationship and dependence of both fields on each other. Students use state of the art software to solve real world problems and communicate solutions to hands-on projects and activities. Students learn about the role of civil engineers and architects and the basic elements of project design and project plan.

Return

Web Development and Web Project

Credits: 1.0

This is an advanced course in web development and builds on the previously acquired knowledge. Students will learn Java 2 Platform Enterprise Edition (J2EE) framework including servlet, Java Serva Pages (JSP), database connectivity using Java Database Connectivity (JDBC), concept of session, GET and POST request, Hypertext Transfer Protocol (HTTP) request and response, Model-View-Controller (MVC) pattern. Students will work on a project to build a web-based application on J2EE platform - including user login, registration, reports, form and shopping cart.

Electives

College Summit 11	College Summit 12	SAT Prep	Entrepreneurship	Fin. Literacy
Speech	Afr. Amer. Studies 1/2	Comparative Religion	Philosophy	Journalism 1
Yearbook 2	Academic Resource	Speech		

Return

College Summit 11

Credits: 1.0 Elective

The purpose of the College Summit 11 class is to prepare juniors for a successful senior year and life after high school, including the college application process and employment opportunities. Students begin to identify and articulate their plans for post-secondary activity (college attendance, work, military, apprenticeship, etc.) and students begin to draft personal statements, action plans, a college list, recommendations, and resumes that will enable them to gain acceptance into the post-secondary program/activity of their choice. Students learn how to effectively advocate for themselves and how to promote their personal strengths. Students are guided to register and prepare for college admittance exams such as SAT and ACT as well as the PSAT/NMSQT.

Return

Speech

Credits: 1.0 Elective

This introductory high school course is designed to give students opportunities to gain poise, develop personal interests, and share responsibilities for group projects. Students will have opportunities to acquire listening skills, to learn fundamentals of oral presentation, to increase their vocabularies through word study and oral presentations, to increase their vocabularies through word study as it relates to speech, to prepare and present various types of speeches, to participate in group discussions, to experience platform reading and speaking, to receive an introduction to debate, to meet some of the challenges of performing through the mass media, and to develop interpersonal communication skills.

Return

Yearbook 1/2

Credits: 1.0 Elective

This course is an introduction to the principles of yearbook journalism culminating in the production of the annual high school yearbook. This course will engage students in the basics of yearbook production including graphic design, copywriting, photo composition, interviewing techniques, and organizational and management skills. This full-year course addresses Maryland College and Career Ready Standards for grades nine through twelve in Visual Arts; English Language Arts – Writing; and Career Technical Education – Arts, Media, and Entertainment. This course is deadline driven and will require participation outside of regular class hours.

Credits: 1.0 Elective

This course is the second of three and provides more detailed content instruction introduction on the principles of yearbook journalism culminating in the production of the annual high school yearbook. This course will engage students in the basics of yearbook production including graphic design, cop writing, photo composition, interviewing techniques, and organizational and management skills. Students will be given the opportunity manage and lead the production. This full-year course addresses Maryland College and Career Ready Standards for grades nine through twelve in Visual Arts; English Language Arts – Writing; and Career Technical Education – Arts, Media, and Entertainment. This course is deadline driven and will require participation outside of regular class hours.

Return

College Summit 12

Credits: 1.0 Elective

The purpose of the College Summit class is to prepare seniors for successful life after high school, including the college application process and employment opportunities. Students identify and articulate their plans for post-secondary activity (college attendance, work, military, apprenticeship, etc.) and develop a Senior Portfolio of materials (college application, personal statement, action plan, college list, recommendations, scholarship application, job application, etc.) that will enable them to gain acceptance into the post-secondary program/ activity of their choice. Students learn how to effectively advocate for themselves and how to promote their personal strengths. Students gain access to personalized technology tools and receive their own book/planner that provides direction for navigating the post-secondary planning process.

Return

African American Studies 1/2

Credits: 0.5

This course is a survey of writings by African American authors from the 17th through 19th Centuries. A range of genres will be studied. Students will examine the formal connections of this tradition—how authors work and rework certain styles, techniques, genres, and structures. Students will also examine how this tradition explores a diverse body of ideas which nonetheless coalesce around the preoccupations of identity, freedom, mobility, and security. Students will have opportunities to engage in close reading, complete short research projects, and engage in writing linked to the Maryland College and Career Ready Standards.

Return

SAT Preparation

Credits: 0.5

Standardized Test Preparation courses help prepare students for national standardized tests such as the PSAT, SAT, and ACT. In particular these courses assist students in developing and/or expanding their vocabulary, test taking, and reasoning skills through study, lecture, logic and rules and general problem solving and test taking strategies.

Return

Comparative Religion

Credits: 0.5 Elective

This course is designed to introduce students to the history and traditions of the major religions of the world. While the primary focus will be on Hinduism, Buddhism, Judaism, Christianity, and Islam, other religions will also be examined. Students will be expected to understand the basic philosophy and practices of each religion as well as to recognize and appreciate the contribution each has made to mankind.

Return

Entrepreneurship

Credits: 0.5 or 1.0 Elective

This course is designed to prepare students with entrepreneurship skills that reflect relevant learning experiences linked with business. Course topics include: developing a business plan and the step-by-step process of starting, organizing, and managing that business. Licensing, legal procedures, advertising, channeling, market analysis, location, financing, managerial skills, and operating procedures are covered.

Return

Philosophy

Credits: 0.5 Elective

This course is a critical reasoning/informal logic course designed to teach students to evaluate logical arguments in daily life and conversation. Students will learn to recognize arguments, the difference between deductive and inductive reasoning, and to recognize and identify informal fallacies. A large part of the course will be devoted to the logic of induction, including the role it plays in probability theory, statistical methods of reasoning, and marking off the difference between science and superstition. Students will also learn the role of inductive logic and analogy in legal and moral reasoning, as well as in discovering causal connections. Check www1.pgcps. org/dualenrollment for dual credit updates.

Return

Financial Literacy

Credits: 0.5, 1.0 Elective

This course presents a variety of units to assist students in acquiring personal finance principles. The implementation of the ideas, concepts, knowledge, and skills contained in this course will enable students to apply decision-making skills and to become wise and knowledgeable consumers, savers, investors, users of credit, money managers, citizens, and members of a global workforce and society. Topics of study include financial responsibility and decision making, planning and money management, credit and debt, risk management and insurance, saving and investing, as well as income and careers. Textbook(s): O

Return

Journalism 1

Credits: 1.0 Elective

This introductory course will provide students with both knowledge about the development of journalism as a communication instrument and practical experiences in journalistic techniques. Appropriate time may also be devoted to various school publications.

Return

Academic Resource

Credits: 0.5 or 1.0 Elective

This course provides struggling special education and general education students with instructional supports and skill development to increase access to the general education curriculum in order to be successful in the academic environment. Curriculum will incorporate instructional practices and strategies based on student learning styles and individual needs and may include self advocacy organization and test taking skills that will enhance academic performance across all content areas. This course is designed for a small class environment and can be taken year long or as a semester class for elective credit.

Return

Speech

Credits: 1.0 Elective

This introductory high school course is designed to give students opportunities to gain poise, develop personal interests, and share responsibilities for group projects. Students will have opportunities to acquire listening skills, to learn fundamentals of oral presentation, to increase their vocabularies through word study and oral presentations, to increase their vocabularies through word study as it relates to speech, to prepare and present various types of speeches, to participate in group discussions, to experience platform reading and speaking, to receive an introduction to debate, to meet some of the challenges of performing through the mass media, and to develop interpersonal communication skills.