PENN-DELCO SCHOOL DISTRICT

PDSD Course Review & Approval

Dr. George Steinhoff
Superintendent of Schools

Dr. Eric Kuminka
Assistant Superintendent

Mr. S. Ryan Coughlin
Supervisor of Secondary Curriculum

Dr. Danielle Murray
Supervisor of Elementary Curriculum

SUBJECT AREA: Mathematics

COURSE: AP Precalculus

GRADE/S: 10 - 12

REVIEWED BY:

TITLE	NAME	DATE
Supervisor of Secondary Curriculum	Mr. S. Ryan Coughlin	
Principal	Mr. John Paul Roskos	
Assistant Superintendent	Dr. Eric Kuminka	
Superintendent	Dr. George Steinhoff	
Board of School Directors	Mr. Leon Armour	

Sun Valley High School Course Summary

AP Precalculus

SUBJECT AREA: Math

GRADE LEVEL(S): 10 - 12

GRADUATION REQUIREMENT (Yes/No): No

PA STATE APPROVED STANDARDS: Academic Standards for PA Core Mathematics/College Board AP Precalculus Course Framework

PA STATE KEYSTONE ASSESSMENT (Yes/No): No

LENGTH OF COURSE (Full Year/Semester): Full Year (1.0 Credit)

COURSE LEVEL(s) (Academic, Accelerated, Honors, AP): AP

PREREQUISITES: Algebra II

AUTHOR(S): Joseph Malaczewski - AP College Board Approved Framework/Curriculum

INITIAL YEAR OF COURSE IMPLEMENTATION: 2024-2025

YEAR OF LAST FORMAL COURSE/CURRICULUM REVIEW: 2024-2025

COURSE DESCRIPTION:

AP Precalculus centers on functions modeling dynamic phenomena. This research-based exploration of functions is designed to better prepare students for college-level calculus and provide grounding for other mathematics and science courses. In this course, students study a broad spectrum of function types that are foundational for careers in mathematics, physics, biology, health science, social science, and data science.

By examining scenarios, conditions, and data sets, as well as determining and validating an appropriate function model, students develop a greater comprehension of the nature and behavior of the function itself. The formal study of a function type through multiple representations (e.g., graphical, numerical, verbal, analytical), coupled with the application of the function type to a variety of contexts, provides students with a rich study of precalculus.

Throughout this course, students develop and hone symbolic manipulation skills needed for future mathematics courses. They also solve equations and manipulate expressions for the many function types throughout the course. Students also learn that functions and their compositions, inverses, and transformations are understood through graphical, numerical, verbal, and analytical representations, which

reveal different attributes of the functions and are useful for solving problems in mathematical and applied contexts.

UNIT OUTLINE:

Unit 1: Polynomial and Rational Functions

Unit 2: Exponential and Logarithmic Functions

Unit 3: Trigonometric and Polar Functions

Unit 4: Functions Involving Parameters, Vectors and Matrices

Source(s): https://apstudents.collegeboard.org/courses/ap-precalculus

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SUBJECT AREA: STEM

COURSE: AP Computer Science Principles

GRADE/S: 10 - 12

REVIEWED BY:

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Sun Valley High School Course Summary

AP Computer Science Principles

SUBJECT AREA: STEM

GRADE LEVEL(S): 10 - 12

GRADUATION REQUIREMENT (Yes/No): No

PA STATE APPROVED STANDARDS: Computer Science Teachers Association K-12 Standards/College Board AP Computer Science Principles Course Framework

PA STATE KEYSTONE ASSESSMENT (Yes/No): No

LENGTH OF COURSE (Full Year/Semester): Full Year (1.0 Credit)

COURSE LEVEL(s) (Academic, Accelerated, Honors, AP): AP

PREREQUISITES: None

AUTHOR(S): Charles Breiling - Project Lead the Way (PLTW) Curriculum - AP College Board Approved Framework/Curriculum

INITIAL YEAR OF COURSE IMPLEMENTATION: 2024-2025

YEAR OF LAST FORMAL COURSE/CURRICULUM REVIEW: 2024-2025

COURSE DESCRIPTION:

Using Python® as a primary tool, students learn the fundamentals of coding, data processing, data security, and task automation, while learning to contribute to an inclusive, safe, and ethical computing culture. The course promotes computational thinking and coding fundamentals and introduces computational tools that foster creativity. Computer Science Principles helps students develop programming expertise and explore the workings of the Internet. Projects and problems include app development, visualization of data, cybersecurity, and simulation. PLTW is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science Principles (AP CSP). This endorsement affirms that all components of PLTW CSP's offerings are aligned to the AP Curriculum Framework standards and the AP CSP assessment.

UNIT OUTLINE:

Unit 1: Creative Computing for All (44 days)

Lesson 1.1 Algorithms (23 Days)
Lesson 1.2 Abstraction (17 Days)
Lesson 1.3 Artistic Expression Through Code (4 days)

Unit 2: Every Bit of the Internet (41 days)

Lesson 2.1 Data Diligence (16 days)
Lesson 2.2 How the Internet Works (20 days)
Lesson 2.3 Creating a Custom Encoder (5 days)

Unit 3: Little Data to Big Data (39 days)

Lesson 3.1 Little Data (20 days)
Lesson 3.2 Trendy Data (14 days)
Problem 3.3.1 Making Predictions from Data (5 days)

College Board: Create Performance Task (12 days)

During these 12 days, students apply all they have learned to select an interest, develop a program, document the program, and submit to the College Board for scoring if they are seeking advanced placement standing. No new content is introduced during this time. Students provide evidence of their knowledge regarding important programming concepts, such as developing algorithms and using abstractions. Students are required to submit an individual program but are able to collaborate on the development of their program. This performance task focuses on students developing computer programs and describing significant aspects of the program that allow it to run as intended.

Unit 4: Solving Complex Problems (24 days)

Lesson 4.1 Simulating the Real World (12 days)
Lesson 4.2 Future Innovations (9 days)
Lesson 4.3 Impacts of Computing Innovations (3 days)

Source(s): https://apcentral.collegeboard.org/courses/ap-computer-science-principles/course

https://www.pltw.org/curriculum/pltw-computer-science

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SUBJECT AREA: Social Studies

COURSE: AP African American Studies

GRADE/S: 10 - 12

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Sun Valley High School Course Summary

AP African American Studies

SUBJECT AREA: Social Studies

GRADE LEVEL(S): 10 - 12

GRADUATION REQUIREMENT (Yes/No): No

PA STATE APPROVED STANDARDS: College Board AP African American Studies Course Framework

PA STATE KEYSTONE ASSESSMENT (Yes/No): No

LENGTH OF COURSE (Full Year/Semester): Full Year (1.0 Credit)

COURSE LEVEL(s) (Academic, Accelerated, Honors, AP): AP

PREREQUISITES: None

AUTHOR(S): Keith Henning - AP College Board Approved Framework/Curriculum

INITIAL YEAR OF COURSE IMPLEMENTATION: 2024-2025

YEAR OF LAST FORMAL COURSE/CURRICULUM REVIEW: 2024-2025

AP COLLEGE BOARD COURSE DESCRIPTION:

AP® African American Studies is an exciting, interdisciplinary course that draws from a variety of fields—history, literature, the arts, geography, science, and law—to explore the vital contributions and experiences of African Americans. In AP African American Studies, students explore key topics that extend from early African kingdoms to the ongoing challenges and achievements of the contemporary moment. Given the interdisciplinary character of African American Studies, students in the course will develop skills across multiple fields, with an emphasis on developing historical, literary, visual and data analysis skills. This course foregrounds a study of the diversity of Black communities in the United States within the broader context of Africa and the African diaspora. The course provides students with a strong foundation in facts and evidence about African American history and culture, offering an immersive survey course that is not currently available in most American high schools.

UNIT OUTLINE:

The AP African American Studies course framework is organized both chronologically and thematically. Beginning in ancestral Africa and progressing through Afrofuturism, students will explore:

UNIT 1 – Origins of the African Diaspora

UNIT 2 – Freedom, Enslavement, and Resistance

UNIT 3 – The Practice of Freedom

UNIT 4 – Movements and Debates

Further Explorations

Student Individual Project

Like all AP courses, AP African American Studies encourages students to examine different themes from a variety of perspectives, in line with the field's tradition of rigorous debate. The course brings together these subjects in a comprehensive and holistic way, comparable to the experience of a first-year college student in an African American Studies survey course.

Source(s): https://apcentral.collegeboard.org/courses/ap-african-american-studies/adopt