

TO: Board of Education

FROM: Randall Booker, Superintendent, Educational Services

SUBJECT: Report on Piedmont High School Proposed Course: *Advanced Placement Computer Science Principles*

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I. **SUPPORT INFORMATION**

Piedmont High School proposes *Advanced Placement Computer Science Principles* as a study on mobile application development.

This year-long course will cover many topics not found in other computer science courses, such as: managing lifecycles, databases (including SQLite), background threading, and best practices for memory-efficient coding. This hands-on course will culminate in a final project in which students create and produce a unique application to be published on the Google Play marketplace.

Students will apply their programming skills and knowledge of internet architecture by using the “App Inventor” programming language, developed by MIT and Google, on the Android Operating systems-based phones or tablets.

This course replaces the PHS current semester-long Mobile Applications class. The semester-long class was intended to be a precursor into the new AP Computer Principles class. Computer Science has been rapidly expanding, and the College Board added this new class to meet the educational needs that were not currently being addressed in the existing AP class.

The course will be part of a sequence of computer courses for high school students recommended by the Computer Science Teachers Association (CSTA). It will meet the higher standards adopted by PUSD, and include the seven big ideas of the College Board's emerging Advanced Placement (AP) CS Principles curriculum: Creativity, Abstraction, Data, Algorithms, Programming, Internet, and Impact.

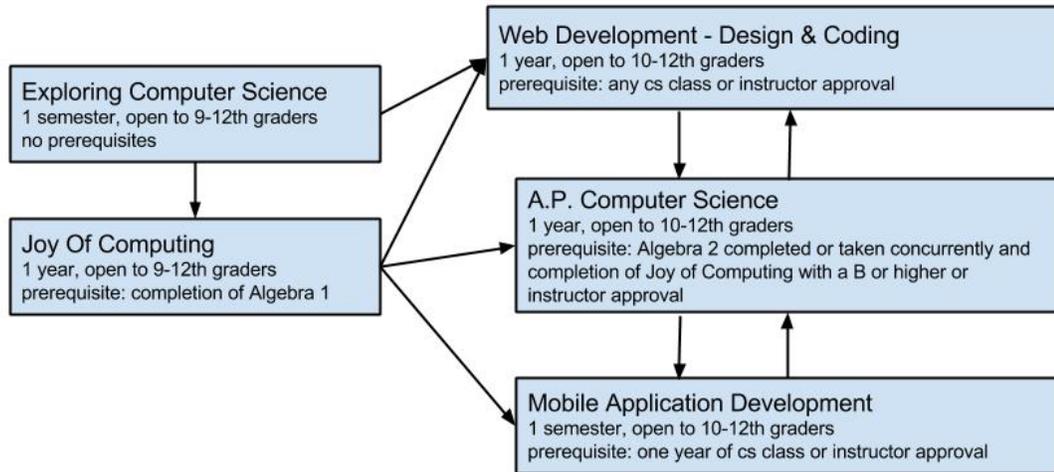
In the 2013–14 school year, a committee of teachers, administrators, parents, and students underwent a year-long review of technology direction at PUSD. The need for higher standards and improved computer classes was identified in these discussions and had broad support from all stakeholders.

The course was part of the recommendation of this group and has broad support from all stakeholders.

As part of the process of approving the CSTA Standards and subsequent discussions, it was agreed that having a variety of "Topics in Computer Science" courses, would offer the most options to PHS students and engage the underrepresented students in the computer science fields. *A course designed to*

*support mobile application development* was suggested by CSTA as a possible first course in a series.

### Course Sequence Options



## II. RECOMMENDATION: REVIEW

Review Piedmont High School Proposed *Advanced Placement Computer Science Principles* Course.