

Advanced Placement Computer Science Classes

(Application for 2022-2023)

Student Information

Student Name (*please print legibly*): _____

Current Grade Level: _____ Student ID#: _____

High School Math Courses Completed: _____

High School Science Courses Completed: _____

LHS Computer Science Classes

Indicate which course(s) for which you are applying to take in 2022-2023

AP Computer Science Principles (AP-CSP)*

AP Computer Science Advanced (AP-CSA)* (*prerequisite AP-CSP or regular CSP*)

* See course descriptions below

Instructors

Don Wisdom – Room C102/C103 (dwisdom@walton.k12.ga.us)

Tabatha Cown – Room A401 (tabatha.cown@walton.k12.ga.us)

Course Descriptions

Computer science embraces problem-solving, algorithms, and perspectives that help people utilize computers to address real-world problems in contemporary life. These courses underscore the importance of communicating solutions appropriately and in ways that are relevant to current societal needs. Each AP course can lead to college credit through the College Board's Advanced Placement Exam Program.

AP Computer Science Principles introduces students to the foundational concepts of the field and challenges them to explore how computing and technology can impact the world. This course offers a multidisciplinary approach to teaching the underlying principles of computation via the **JavaScript** language. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. Students are given the opportunity to use technology to address real-world problems and build relevant solutions. Together, these aspects of the course make up a rich curriculum that aims to broaden participation in computer science. *This course is the prerequisite for AP Computer Science Advanced.*

AP Computer Science Advanced is a one-semester course offered 2nd semester each year. This course is equivalent to a one-semester, college-level introductory course in computer programming (*coding*). The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (*data structures*), approaches to processing data (*algorithms*), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using the **Java** programming language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. *Students must take AP Computer Science Principles, or obtain permission of the regular Computer Science Principles teacher, prior to taking this course.*

Other Prerequisite Requirements

It is NOT necessary for students to have prior coding experience prior to taking these courses. Students should have a working knowledge English, Algebra and simple Geometry. Students should be comfortable with functions and the concepts found in the uses of function notation, such as $f(x) = x + 2$ and $f(x) = h(g(x))$. **Each student must have a recommendation from his or her most recent math or computer science teacher (see below).**

Other Information

The Georgia Department of Education allows for AP Computer Science Advanced and/or AP Computer Science Principles to count as a Science, Foreign Language*, or a 4th math credit towards high school graduation.

The Georgia Board of Regents, which governs all Georgia *public* colleges and universities, **does not** recognize AP Computer Science Advanced or AP Computer Science Principles as a 4th math credit for completion of the high school mathematics college preparatory sequence of 4 credits. **However, some private or out-of-state institutions may.**

***Computer Science Also Counts as a Foreign Language:** Combing any two of the following courses - **AP Computer Science Advanced, AP Computer Science Principles, Computer Science Principles, or Game Design**, satisfies the 2-unit foreign language requirement for high school graduation. Most colleges also accept these courses for foreign language requirements. It is highly recommended that students also take a 2 course sequence of a human language as well (e.g., Spanish, Latin, French, German, etc.).

Computer Science Career Pathways: These courses can be used to complete a Career Pathway in the area of Computer Science (a sequence of 3 courses: Introduction to Digital Technology, Computer Science Principles or AP Computer Science Principles and AP Computer Science Advanced). A portion of these courses can also be used to complete a Career Pathway in Game Design (a sequence of 3 courses: Introduction to Digital Technology, Computer Science Principles or AP Computer Science Principles, and Game Design). Students are strongly encouraged to complete both pathways.

I have read and understand the course description, prerequisites, and requirements above.

If Applicable: List or describe any prior computer programming experience or education you have. Include the names of the programming languages you have studied and in what context have you studied them:

Student Signature _____

Date _____

Parent Signature _____

Date _____

Most Recent Math or Computer Science Teacher's Recommendation:

- Student should have strong algebraic skills;
- Student should have strong problem-solving and reasoning skills;
- Student should have strong English communication skills;
- Student should be self-motivated and have a disciplined work ethic.

*I recommend the above student for the **LHS AP Computer Science Course(s)** for the 2022-2023 academic school year.*

Teacher's Signature: _____

Course(s) in which you taught this student: _____

Note: Return this form to Mr. Wisdom (C102/C103) or Mrs. Cown (A-401).