

# AP Computer Science A Application

*2021-22 School Year*

## Course Overview

The Advanced Placement Program enables a student to take a college level course while still in high school. Computer Science A emphasizes object-oriented programming methodology with an emphasis on problem solving and algorithm development and is meant to be the equivalent of a first-semester course in computer science. It also includes the study of data structures and abstraction.

Please familiarize yourself with the curriculum of this course by visiting the following links:

1. <https://apstudent.collegeboard.org/apcourse/ap-computer-science-a/course-details>
2. <https://codehs.com/info/curriculum/apjava>

Next, please read the following prerequisites and expectations for the course. Both the student and parents must sign that they understand the expectations before the student will be considered as a candidate to take the course.

## Prerequisites

This course is open to students in grades 11 and 12, and to 10th grade students who have successfully completed AP CSP.

Students must have strong logical thinking skills in place, and must **request an evaluation from their Math teacher**. This request should be made respectfully through email, and the email should be copied to [rebeccastacey@mckeelschools.com](mailto:rebeccastacey@mckeelschools.com). The teacher will then be provided with the link for the recommendation.

Candidates must submit an **original** example of a program, app or web page they have created. The programming language may be graphical (Scratch, App Inventor, Blockly, etc.) or text-based. Please include the following information:

- A screen shot(s) of the complete code
- A short (no more than one minute) video of the code executing – This could (preferably) be a web link (YouTube, Scratch, CodeHS, etc.) or a video file such as \*.mp3, \*.mp4 or \*.mov.
- A written explanation of how and why the main algorithm of the program works

The preceding three items must be submitted through email to [rebeccastacey@mckeelschools.com](mailto:rebeccastacey@mckeelschools.com) by 3/5/2021.

# Expectations

## Homework/Pace/Grading

Because it is a college-level course, the pace will be quick. Students will need to be consistently attentive and on task. ***Many students have the tendency to be off task when using an electronic device. Those students will have difficulty keeping up with the college-level pace of the curriculum.***

Students must be willing to work diligently on all assignments. There will be a ***substantial*** amount of classwork. Students must use effective time management in class to keep up. Work that is not completed in class must be completed for homework.

Attendance in each class is vital. Students who are absent frequently may struggle. It is expected that the students will do their assignments promptly.

It is vital that students be self-directed problem solvers. Students will routinely deal with frustrating problems in their research, coding, and project design. They must be able to deal with this frustration effectively and proactively. They may need to spend a great deal of time on a particular aspect of their program before it is what they want, so perseverance is a must!

## The AP CS A Exam

The course will conclude with a 3-hour final exam in May. There is one section that is 40 multiple choice questions, and one section that is 4 free response questions. Both sections count for 50% of the overall score and are 1.5 hours in duration.

## Equipment

It is important that students have access to a laptop or desktop computer at home so that they can work there when necessary. **\*Virtual students MUST have a computer. An iPad is not sufficient.\***

## Summer Preparation

Students will receive information about required summer work upon their acceptance.

# Agreement/Acknowledgement

If both the student and the parents understand these expectations and are committed to the effort necessary to succeed in AP CS A, please sign below and return to Mrs. Stacey by 3/5/2021.

\*Please make a copy for your records\*

Student (Print) \_\_\_\_\_

Student(Sign) \_\_\_\_\_

Date \_\_\_\_\_

Parent(Sign) \_\_\_\_\_

Date \_\_\_\_\_

~~~~~*Do not write below this line*~~~~~

Original program submitted to Mrs. Stacey: Yes / No

Date: \_\_\_\_\_

Math Teacher Recommendation requested: Yes / No

Date: \_\_\_\_\_