

Advanced Placement Computer Science Principles Course
Summer 2018 Assignment

Welcome to AP Computer Science Principles!

This class is about the principles that underlie much of the technology around us. Whatever it is you want to do in your life, it is likely that technology affects it in some way, or that some technological innovation is needed.

This AP class is very different than others because in addition to the year-end test in May, we have two “performance tasks” that you will work on in class and then upload to College Board in April. One of the tasks is essentially a research project (but you present your research in a more creative way than a report), and the other is a code you will write. You will have plenty of class time in April to complete these.

This course is about creativity, technology and innovation. In AP CSP, you will often be asked to invent your own solution to problems. Even if it is a problem that has been solved before, thinking like a computer scientist requires a different mindset. We study a lot of things in this class not only because it’s foundational knowledge, but because of the way it makes you think, the way it asks you solve problems.

The goal of the summer assignment is to get you started on this way of thinking.

I recommend that you spread out the summer assignment. Please do not try to complete it all in the final week of the summer. AP CSP takes time to process and grasp at a level necessary for success in AP CSP. Remember, AP CSP is a college level course. Taking a college level course in high school is difficult, requires dedication, and is a great investment in your education. So prepare yourself and arrive ready to learn.

This will be my first year teaching this class, so I will be going to training and preparing this summer too. I am excited to be teaching AP CSP and looking forward to having a successful year together, but we all need to make sure we do work during the summer to be prepared.

See you in August!

Mr. Detrick
detrickd@warrenhills.org

Note: All parts of the summer assignment are available electronically on Google Classroom. Sign in using your school email. **The class code is ukc6cru.**

Due Date: Wednesday August 30, 2018. Work may be submitted early.

Thank you to Mrs. Nunnenkamp for use of her APCSP summer assignment

A Quick Note on Written Responses:

Technical writing is a large part of AP CSP. I expect all written assignments to be in complete sentences, use correct grammar and use correct punctuation. I also expect well designed, clear, concise answers with supporting details.

Sample prompt: “Give at least one specific example of an aspect or experience in your personal life that is related to the chapter.”

Example of a poor response:

I used search engines all the time.

Example of an AP level response:

The authors center this chapter on how search engines are manipulated to serve government and political party’s wishes and ideals. They explain how a Google search for “democracy” yields different results in China versus the United States. Obviously both countries have very different connotations of democracy, and they want people to think the way they do. So, the same Google search alters depending on the zone and country we live in. I personally saw this during my trip to India. In the U.S, I had searched up information about Jayalalitha, an Indian central minister. The readings were generally neutral, exposing the good and bad of her life. However, when I opened the same search in India, almost all of the articles listed were highly biased, exposing only the good in her. Thus, country matters, and I learnt that even Google is subject to political strategies.

Part I: Sign up for our Google Classroom:

- All parts of the summer assignment should be submitted by August 30th on Google classroom.
- Go to Google.com and log in using your school email
- Go to Google classrooms and use the code ukc6cru to sign into AP CSP classroom.

Part II: Understanding AP CSP: Course Description questions

Course description can be found at the link below or on the link on Google classroom.
<https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap-computer-science-principles-course-and-exam-description.pdf>

Skim the document and answer the following questions in your own words. Do not copy paste when describing each section.

1. How is the APCSP course assessed? How many parts are there? Give a brief description of each part and the associated percentage of the overall score that each part represents.
2. Identify and describe each of the computational thinking practices that we will practice in APCSP.
3. Identify and describe the seven Big Ideas of APCSP.

Submit the assignment on Google classroom – 10 points

This assignment will be graded on the depth and detail of your writing.

Part III: Practice Explore Task

One thing that is unique about the AP CSP exam is that there will be Performance Tasks (Explore and Create Tasks) done during the school year that will be submitted to College Board before taking the multiple choice portion in May. For this part of the summer assignment you will be doing a practice Explore Task.

1. Read the description of the Explore Task at this link. Most of the information you will need is on pages 1-8 and 22-23.
<https://apcentral.collegeboard.org/pdf/ap-csp-student-task-directions.pdf>
2. Look at the Explore Tasks – Sample Responses half way down this website.
<https://apcentral.collegeboard.org/courses/ap-computer-science-principles/exam>
3. Do a search on Google for “APCSP Explore Tasks” for many more examples and for teachers who give good descriptions.
4. Your assignment is to complete (parts of) an Explore Task that satisfies the APCSP requirements above, including
 - a. Select a computer science innovation that had an impact on our current way of life and research the positive and negative impacts it had on our world.

- b. **Produce a computational artifact** (visualization, graphic or video) that illustrates, represents and/or explains the computing innovation's intended purpose, its function, and its effect on our lives. **See the rubric in the link above for content specifications.** Try to find a creative way of conveying the results of your research. You might create an infomercial or a public service announcement or a comic strip.
- c. **Written response** – Answer the **questions 2a-2c and 2e** required in the rubric in the above link. (**you can skip 2d** for the summer assignment)

Computational Artifact Rubric	
What is the technological innovation? The artifact specifically identifies the innovation and explains the role computing plays in the innovation.	/5
What is the most important thing that it enables you to do? The artifact precisely describes the personal significant impacts experienced.	/5
What was a problem or issue with the way it was done before that this technology solved or made better? The artifact precisely describes significant impacts felt before the innovation became available and identifies how those impacts have been eliminated or reduced by the innovation.	/5
Acceptable format is used in creating the artifact.	/5
Written Response a.	/5
Written Response b.	/5
Written Response c.	/10
Written Response e.	/5
Total	/40

Note: Be sure that the Computational Artifact and written responses are your work. Plagiarism will not be tolerated.

Assignments turned in late will be 10% off per day late. Assignments should be posted on Google Classroom by August 10th. This is not an assignment that can be done quickly, so please work on it throughout the summer. My goal is for summer assignments to take a total of about 8-10 hours.