AP Expectations Night
AP Computer Science A (aka "APCS-A")

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OPTIONAL AP COMPUTER SCIENCE A REVIEW BOOK:
TITLE: Barron's AP Computer Science A Premium 2024 by Roselyn Teukolsky
COST: $26.99 new as of 05-22-2023 (prices vary over time)
AMAZON LINK: bit.ly/3WoMRT5
NOTE: **While this book is optional, it is recommended for students <u>taking the exam</u>, and for students that want <u>extra help</u>.**

WHY SHOULD YOU TAKE COMPUTER SCIENCE?
- Computer Science combines math, science, logic, language arts, and artistic design skills all into one package
- "Everybody in this country should learn how to program a computer because it teaches you how to think." -- *Steve Jobs*
- "What most schools don't teach" video   **https://bit.ly/36IwvuK**
- Code.org discussion of Computer Science   **http://code.org/promote**

BASIC COURSE CONTENT:
- Karel J Robot, Intro To Java   (+/- 03 weeks)
- ICT AP Comp Sci curriculum + CollegeBoard AP Classroom   (+/- 25 weeks)
- AP Picture Lab + AP exam review   (+/- 06 weeks)
- Robotics Java programming using Finch robots **OR** Webots   (+/- 04 weeks, <u>after</u> AP exam)

YOU WILL BE SUCCESSFUL IN AP COMP SCI IF YOU:
- Are willing to think and solve problems for yourself
- Are here every single day without fail, and don't miss often due to "conflicts"
- Are willing to occasionally struggle with code until you work it out on your own and get it right
- Have a sufficient math and science background. The more, the better!
- Are self-motivated, comfortable with computers, and able to work at a high level of thought
- Lean towards a career in technology, computers, math, science, engineering, etc.
- Know how to study for, and take "problem solving" quizzes and exams

SUMMER HOMEWORK:
There is no **specific, required, or graded summer homework packet for AP Computer Science A**. Learning the Java language is best done together in class, where we can deal with errors and problems as a team. **HOWEVER**, if you have not coded before, or if your math / science / logic skills are not as strong as they should be, consider practicing with one or more of these tutorials. I have listed these in order of preference:

1. **Kahn Academy Intro to JS Drawing and Animation**   **https://bit.ly/1vwAtR0**
   (JavaScript is <u>not</u> Java, but this is a nice intro to programming)

2. **Learn Java 8 – FreeCodeCamp.org video tutorial**   **https://bit.ly/3c6VDfC**
   (9+ hour YouTube video, great summary of Java)

3. **CodingBat (Java practice coding problems)**   **http://codingbat.com/java**
   (A great way to practice Java coding, don't do Maps!)

SHOULD FRESHMEN OR SOPHOMORE STUDENTS TAKE THIS CLASS?

This class is open to all grade levels of YLHS students who are prepared for <u>college level</u> work.

- Has the student successfully completed **AP Computer Science Principles** first?
- Has the student taken advanced math and/or science classes before this year?
- Has the student coded in the past at any level, including middle school, coding camps, summer classes, etc?
- Is the student passionate about technology, coding, and computers?
- Is the student planning a career in Computer Science, Networking, App Development, Engineering, Science, etc?
- Is this a strong student who adapts well to difficult courses?
- Does the student fully appreciate that this is a college level course? Are they ready for college level work?
- Statistically, most of the students who drop this class are either Freshmen or Seniors
- Priority may be given to Juniors and Seniors if space is limited.

FORMER AP COMPUTER SCIENCE STUDENTS OFFER SUGGESTIONS:

If you could give advice to incoming AP Computer Science A students, what would it be?

- "Study for quizzes"
- "Stay focused"
- "Don't miss class!"
- "Read the project before you do it"
- "Try to solve it on your own before getting help"
- "Don't be afraid to ask Mr. Eliot questions"
- "Take advantage of lunch and after school lab time to get caught up"
- "Walk through the code line by line if you are stuck"
- "Pick a good seat, pick good teams, and groups. Don't just talk all period"
- "Be the code, understand the code, defeat the code"
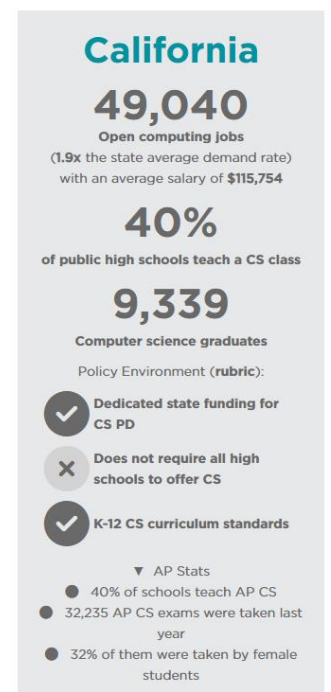- "Don't underestimate AP Comp Sci. It starts easy, but gets much harder before you know it!"

AP COMPUTER SCIENCE A EXAM INFORMATION (estimated, 2024 dates have not been posted!):

https://apstudents.collegeboard.org/exam-policies-guidelines/exam-fees

- The 2024 exam cost is +/- $97 if purchased by mid November
- Exams ordered between mid November and mid March have a late fee of $40
- The unused or canceled exam fee is $40
- The **AP Computer Science A** written exam MIGHT BE at 12:00pm on Wednesday, May 8th, 2024

YOUR QUESTIONS AND COMMENTS?
Please email: deliot@pylusd.org

California

49,040
Open computing jobs
(**1.9x** the state average demand rate)
with an average salary of **$115,754**

40%
of public high schools teach a CS class

9,339
Computer science graduates

Policy Environment (**rubric**):

✓ Dedicated state funding for CS PD

✗ Does not require all high schools to offer CS

✓ K-12 CS curriculum standards

▼ AP Stats
● 40% of schools teach AP CS
● 32,235 AP CS exams were taken last year
● 32% of them were taken by female students

https://code.org/promote/