# AP Information Night
## AP Computer Science A (aka "AP Comp Sci.")

## CONTACT INFORMATION:
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## RECOMMENDED AP COMPUTER SCIENCE TEST REVIEW BOOK:
TITLE:             Barron's AP Computer Science A, 8th Edition by Roselyn Teukolsky
COST:             $20.39 new as of 05-30-2018
AMAZON LINK:   https://goo.gl/7yCktp
ISBN:             ISBN-10: 1438009194       ISBN-13: 978-1438009193
*NOTE*:  **While this book is optional, it is highly recommended for all students taking the exam, and for those that need extra help.**

## WHY SHOULD YOU TAKE COMPUTER SCIENCE?
- Computer Science combines math, science, art, logic, and language arts into one area of study.
- "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://goo.gl/W6U1Ga**
- Code.org discussion of Computer Science      **http://code.org/promote**
- **"**Three of the Top 10 jobs in OC are in IT"      **https://goo.gl/BKh62a**

## BASIC COURSE CONTENT:
- Karel J Robot, Intro To Java             (03 weeks)
- ICT AP Computer Science A curriculum lessons    (25 weeks)
- AP Picture Lab + AP exam review         (+/- 06 weeks)
- Robotics programming using Finch robots     (+/- 04 weeks, after 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" during 5th or 6th periods
- Are willing to occasionally struggle with code until you work it out 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.

## SUMMER HOMEWORK:
There is no specific summer homework packet for AP Computer Science.  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 programmed in the past, or if your math / science / logic skills are not as strong as you would like, consider practicing with one or more of these programming environments.  I have listed these in order of preference:

1. **Kahn Academy JavaScript Programming Tutorial**    **https://goo.gl/5u1fuj**
2. **Code.org 20 hour basic course**         **http://studio.code.org/s/20-hour**
3. **Udemy Decoding AP Computer Science A**     **https://goo.gl/uiQECa**
4. **MIT App Inventor**                  **http://appinventor.mit.edu/explore/**
5. **Scratch**                         **http://scratch.mit.edu/**
6. **Processing**                     **http://processing.org/**
7. **CodingBat (Java Practice)**            **http://codingbat.com/java**

## SHOULD FRESHMEN OR SOPHOMORES TAKE THIS CLASS?

**This class is open to all high school students, so YES, if the student has a strong academic background!**
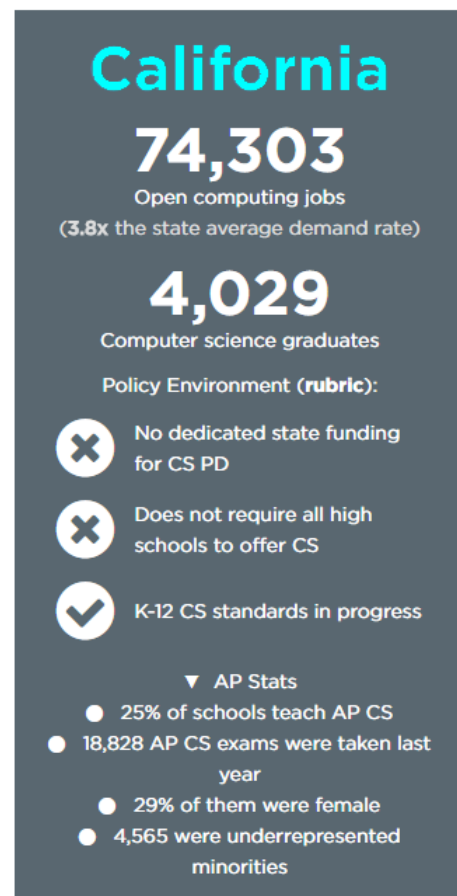
- Has the student taken advanced math and/or science classes?
- Has the student coded in the past at any level, including middle school, calculators, web pages (JavaScript), etc.?
- Is the student interested in technology and computers?
- Is the student planning a career in Computer Science, Networking, App Development, Engineering, Science, etc.?
- Is this a STRONG student who adapts well to difficult courses?

## RECOMMENDATIONS FROM PREVIOUS AP COMPUTER SCIENCE STUDENTS

**If you could give advice to incoming AP Computer Science 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 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"

## YOUR QUESTIONS AND COMMENTS?

**California**

**74,303**
Open computing jobs
(3.8x the state average demand rate)

**4,029**
Computer science graduates

Policy Environment (**rubric**):

✗ No dedicated state funding for CS PD

✗ Does not require all high schools to offer CS

✓ K-12 CS standards in progress

▼ AP Stats
- 25% of schools teach AP CS
- 18,828 AP CS exams were taken last year
- 29% of them were female
- 4,565 were underrepresented minorities

`https://code.org/promote/`