



# AP Computer Science

# Prerequisites

## Intro Java

- No experience required
- Pass Geom  $\geq$  C

## APCS

- 1 year of programming is strongly recommended
- Pass Alg 2  $\geq$  C  
District requirement
- Pass Alg 2/Trig  $\geq$  B  
Reality to be prepared
- Need maturity & discipline
- Need strong prob. solving skills

# Course Focus

## Intro Java

- Fun programming
  - > Make a game
- Application
  - > Write code to modify a selfie picture
- Open-ended challenges
  - > More room for creativity
  - > Work to your own challenge level
- Many platforms
  - > CodeHS Javascript, Greenfoot
  - Sparki Robotics, Java

## APCS

- Academic programming
  - > Sort a list of numbers
- Problem-solving
  - > Write code to find the GCF of a number
- Focused challenges
  - > End-goal is specific
  - > Expectation level is higher for everyone
- One platform
  - > Java

# Other Differences

## Intro Java

- 45 min daily HW
- Labs done in class
- Labs take 45 min
- Mostly effort based

## APCS

- 60-90 min daily HW
- Labs done at home
- Labs take 30min–3 hours
- Effort + Accuracy

# Homework Survey

## APCS

% of students	Normal workload	Normal avg	Heavy workload avg	Heavy workload frequency
10%	< 1 hr / night (4.5 days / week)	0:40:00	3:30:00	Once every 2 weeks
40%	< 2 hr / night (5 days / week)	1:15:00	4:50:00	Once every 1.9 weeks
35%	< 3 hr / night (5 days / week)	2:10:00	5:55:00	Once every 1.8 weeks
15%	3+ hr / night (5.7 days / week)	3:45:00	8:50:00	Once every 1.7 weeks

## Intro Java

% of students	Normal workload	Normal avg	Heavy workload avg	Heavy workload frequency
70%	< 1 hr / night (3.5 days / week)	0:30:00	1:15:00	Once every 2.5 weeks
18%	< 2 hr / night (5.2 days / week)	1:30:00	2:40:00	Once every 2.4 weeks
12%	2+ hr / night (5.9 days / week)	2:55:00	3:10:00	Once every 2 weeks

# When should you take APCS?

- **When you are academically mature enough**

You should be challenged but not overtaxed and stressed out by the work

You should be at a similar level to your peers in the class

(who have mostly taken Intro Java or been programming for > 1 years)

Your math background is related to readiness but it's not a perfect correlation

- **When you have time in your schedule to spend up to 2.5 hours two nights in a row when that's what it takes.**

The normal workload is 1.5 hrs/night but sometimes you get stuck and need time to figure things out. See previous chart.

- **Better not to rush into APCS**

Why take APCS and work incredibly hard just to get a B or C when you can get an A by taking Intro Java first or waiting an extra year?

# What can I do over summer?

Caveat: Nothing matches a full year in Intro Java

- Study Java to get the basics down. Lots of sites for this.  
[APCS Awesome](#), [Coursera](#), [Udemy](#), [Udacity](#), [EdX](#), [Harker Summer Academy \(Advanced Programming\)](#)
- Once you have Java language mechanics, start problem-solving in Java  
[codingbat \(Levels 1 and 2 of all sections\)](#), [USACO Training & Bronze Level](#), [HackerRank](#), [LeetCode](#)

# Current APCS students say:

- Don't be too scared. Just make a good choice on when to take APCS
- "APCS is still really fun!"