

Welcome to AP Computer Science A

Mr. Smit

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Course Description:

The AP Computer Science A course is an introductory course in computer science. The AP Computer Science course emphasizes object-oriented programming methodology with a concentration on problem solving and algorithm development, and is meant to be the equivalent of a first-semester college-level course in computer science. It also includes the study of data structures, design, and abstraction.

Materials needed for class everyday:

- A binder.
- A pen/ pencil.
- A means of saving your work to bring to and from school (i.e. USB stick)

Course Objectives:

- Understand and apply the main principles of object-oriented software design and programming: classes and objects, constructors, methods, instance and static variables, inheritance, class hierarchies, and polymorphism
- Learn to code fluently in Java in a well-structured fashion and in good style; learn to pay attention to code clarity and documentation
- Learn to use Java library packages and classes within the scope of the **AP Java subset**
- Understand the concept of an algorithm; implement algorithms in Java using conditional and iterative control structures and recursion
- Prepare for the AP Computer Science A exam; meet all of the curricular requirements defined by the College Board for this course.

Texts and Supplementary Materials:

- Litvin, Maria, and Gary Litvin. *Java Methods: Object-Oriented Programming and Data Structures, 3rd AP Edition*, Andover, Mass.: [Skylight Publishing](#), 2015.
- The College Board's *Maggie*, *Picture*, and *Elevens Labs* Student Guides.
- *CodingBat*: <http://codingbat.com/java>.
- *Intro to Computer Science*: <http://chortle.ccsu.edu/cs151/cs151java.html>
- *Project Euler*: <https://projecteuler.net/>
- *Practice-it Java*: <http://practiceit.cs.washington.edu/>

Additional AP Exam review materials:

- Litvin, Maria, and Gary Litvin. *Be Prepared for the AP Computer Science Exam in Java, 6th Edition*, Andover, Mass.: [Skylight Publishing](#), 2014.
- Teukolsky Roselyn. *Baron's AP Computer Science A, 7th edition*, Hauppauge, NY: Baron's Educational Services, 2015

Grades:

The Final Course Grade will be calculated as follows:

Quarter 1: 22%
Quarter 2: 22%
Quarter 3: 22%
Quarter 4: 22%
Final: 12%

The student's Quarterly Grades will consist of the following categories:

Tests- 40%
Quizzes- 30%
Labs- 20%
Homework- 10%

- *Homework will be given just about every night to review the material taught in class that day.
- *Usually there are multiple quizzes and 3-4 tests given each quarter. Grades will be viewable on the parent portal.
- *Labs include any assigned in-class programming including individual and group projects
- *More information about the final project will be given after the AP Exam

Attendance:

Every class is very important. You are to be on time for class, which is, in your seat before the bell rings. Please be prepared bringing all expected materials. If you are absent from class please see me for any missed work.

Programming at Home:

For instructions downloading JDK and Eclipse on your home computer, please refer to your in-class notes, or visit the textbook publisher website:

<http://www.skylit.com/javamethods/faqs/GettingStartedJava.pdf>

Learning a programming language is similar to learning a spoken language, in that the more practice with the language, the easier it will be to become fluent. The more time you spend exploring Java, the more successful you can expect to be on the AP exam.