

AP Computer Science

- **Instructor:** Allen Jarrett, ajarrett@eduhsd.k12.ca.us
- **Need help?**
 - Before or after school
 - Set up a time to meet either in person or by email.

Course Description

AP Computer Science A emphasizes object-oriented programming methodology using Java, 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. The course is designed for students with no prior computing experience.

Students will be learning all levels of the Java language including basic syntax, declaration of variables, if-else statements, for, while, and do-while loops, library classes, and GUI (graphical user interface) tools. This course will be especially helpful to students contemplating careers in computer science, business, statistics, insurance and engineering. Students may earn college credit by successfully passing the Computer Science Advanced Placement Exam in May.

AP Computer Science A articulates with California State University, Sacramento - CSC 15 Programming Concepts and Methodologies I (3 units).

Course Expectations

- Come prepared (Arrive on time, have all assignments completed. Use bathroom before entering classroom.)
- Be polite (Speak respectfully to teachers and students. Do not disrupt another student's learning.)
- Be productive (Complete all warm-ups and assignments on time. Be an active learner. Take notes. No distractions. No sleeping.)
- No food or drinks are allowed in the lab at any time.
- Follow all Oak Ridge rules including the Honor Code listed below.
- Unless otherwise instructed by the teacher, students shall turn off, not use, and keep out of sight cell phones and other signaling devices during the class period. Furthermore, any listening, recording, or videotaping of peers, teachers, or visitor to the classroom without prior consent is prohibited. Consequences follow ORHS policy as stated in student handbook.
- **AP Exam:** All AP Computer Science students are expected to take the AP exam in May. Students with a financial need may request assistance from the counseling office. The 3 hour AP exam consists of 40 multiple choice questions and 4 free

response questions. You'll have 90 minutes to complete the multiple choice section and 90 minutes to complete the free response section. Both sections are worth half of your final score.

- **Absences:** Absent work is given two days to complete for every day missed. It is always the student's responsibility to determine what they missed when absent.

APCS Honor Code

AP Computer Science can be hard. Object-oriented concepts can take time for some students to grasp. Some students in computer science will submit work that is not their own. In order to be successful in this class you must try to figure out the concepts by experimenting with your programs. Do not be afraid see what will happen if you write your code in a particular way. That is how you will learn. By copying other's code you are shortchanging your own learning and undermining the atmosphere of trust in our class.

You are expected to submit your own work in this course. In particular, attempting to take credit for someone else's work by turning it in as your own constitutes plagiarism, which is a serious violation of the Oak Ridge High School academic integrity policy. This does not mean that any discussion of assignments is somehow a violation of the integrity policy. In computer science courses, it is usually appropriate to ask others for hints and debugging help or to talk generally about problem-solving strategies and program structure.

You must not share actual program code with other students. In particular, you should not ask anyone to give you a copy of their code or, conversely, give your code to another student who asks you for it. Similarly, you should not discuss your algorithmic strategies to such an extent that you and your collaborators end up turning in exactly the same code. Discuss ideas together, but do the coding on your own.

You must be prepared to explain any program code you submit. Sometimes students change their code by rewriting comments, changing variable names, and so forth, to disguise the fact that their work is copied from someone else. If you wrote the code yourself, you will be able to explain it. I may ask you to modify a particular method or explain an algorithm you were expected to create. If you are unable to do this, no credit will be given for the assignment.

Computer Security Policy

- Computers in our lab have a security software program. This software disables many of the features you might find common to other computers, including any home computer you might have. The software also monitors and records all use by the student and may be used for disciplinary purposes.
- Do not attempt to defeat or disable the security software.
- Do not change the desktop environment, which includes the color, fonts, video display mode, screen saver, icon arrangement, and especially the wallpaper.
- Do not download files onto your computer's hard drive without specific permission from your instructor.
- Do not install any programs on your computer.
- Do not delete or rename any file on your computer's hard drive or any other school computer unless it is one that you created.
- Do not copy any software on any school computer for your personal use. This is illegal. If you want a copy, buy your own.

Course Outline

Semester 1

- Chapter 1: Computer Systems
- Chapter 2: Objects and Primitive Data
- Chapter 3: Program Statements
- Chapter 4: Writing Classes
- Chapter 6: Arrays

Semester 2

- Chapter 5: Enhancing Classes
- Chapter 7: Inheritance
- Chapter 8: Recursion

Resources

Java Platform, Standard Edition

- [Java SDK 8u91](#)

IDE (Integrated Development Environment)

- [BlueJ](#) (used in demonstrations)
- [Eclipse](#) (for advanced users)
- [DrJava](#)
- [jGrasp](#)
- [repl.it](#) (browser compiler)
- [IntelliJ](#)

Tutorial Videos and Help Forum

- [AP Computer Science - Mrs. Allen](#) YouTube Channel
- [The New Boston Java](#)
- [AP Computer Science in 60 Minutes \(Java\)](#)

Online Practice Sites

- [Practice-It!](#) (requires free account)
- [CodingBat](#)
- [AP Exam Practice](#) (requires free account)
- [CollegeBoard AP Computer Science](#)
- [Oracle Java Tutorial](#)

GitHub

- Git and GitHub
 - [Official GitHub Help](#)
 - [Recommended resources](#)
- GitHub Pages
 - [Official site](#)
 - [Thinkful guide](#)

Grading

Percentages	Weights
90% - 100% : A	Practice/Assignments - 20%
80% - 89% : B	Labs/Programs - 25%
70% - 79% : C	Chapter Exams - 35%
60% - 69% : D	Final Exam - 20%
Below 60% : F	

Practice/Assignments: Textbook reading and book problems will be assigned each chapter. You are encouraged to correct your answers with my solutions key in the classroom. All practice and assignments must be completed on your own. Handwritten solutions to Practicelt! problems MUST be turned in on test day. You may not copy or look at another student's work. Submitting answers found online to practice problems is considered a breach of academic integrity.

Labs/Programs: Assignments given in class meant to introduce or reinforce a topic. Lab assignments may include the coding of programs and/or functions, testing programming code, writing pseudocode and/or algorithms, and problem solving exercises. You will be given time in class to complete lab assignments. Use your time wisely. You may not work on any other work until the chapter labs have been completed. Doing so will result in a zero score for the remainder of your labs for that chapter. Any assignment not completed in class must be completed on your own time. Required labs are listed on your assignment sheet and can be downloaded from [GitHub](#). Labs will be due on the day before the chapter test and handwritten copies of your code MUST be turned in on test day.

Tests: Given at the end of each unit and will be worth 100 points each. All tests will be designed after the actual AP Exam. Both multiple choice and free-response question formats will be used. All students are expected to complete tests on the date announced for the test. If a conflict exists notify the teacher prior to the test date. Students scoring below 50% on any test will have the option of submitting test corrections to raise their score to 50%.

Final Exam: It is Cumulative and will be given at the end of each semester. Prior to the actual AP Computer Science Exam, you will take a practice AP Exam which will count as the semester exam for second semester.

Please be advised these policies and procedures are subject to change.