

COURSE SYLLABUS (Distance Learning Edition)

Advanced Placement Computer Science 'A'

Tamalpais Union High School District

Redwood High School

Larkspur, California

August 19, 2020

Instructor / Classroom Info

Instructor: Dave Goldsmith (dave@redwood.org and DaveGoldsmith.com)
Lab 279 (Windows 10 Professional Computer Lab) and Office 277 (945-3639)
Online Learning Management System: Canvas

Course Objective

This year-long course is intended for students who want a challenging, in-depth, introductory college-level course in computer programming while still in high school. Advanced Placement Computer Science 'A' is a nationally-developed, standardized curriculum that can prepare you to take the College Board AP Computer Science 'A' Exam and receive college credit while still in high school (subject to the individual restrictions and requirements of universities). This course is designed for students who are either interested in a career or further studies in computer science or who have an ongoing interest in computer programming. In this class you will develop and analyze algorithms and data structures and create more complex computer programs. In addition to extensively learning a programming language, you will also continue to learn good programming techniques and coding styles. The computer language currently being used by the College Board for the Advanced Placement Exam is Java, and the College Board's suggested classroom labs are "Elevens", "Magpie Chatbot", and "Picture". Students may also spend some time designing and writing other programs as a way of learning to work with the API of an existing, large, complex application, or simply to gain more coding experience.

Required Course Materials

Notebook (with lined paper), pencils/pens/erasers

Note: There is no required textbook for this course, although numerous online materials will be used

Online Class Rules and Procedures

Maintain a reliable and sufficiently speedy Internet connection. (See note below.)

Use a desktop or laptop computer (not a phone or tablet) to connect to our online classes. (See note below.)

Make sure your computer camera is working and turned on at all times, except when told otherwise by the instructor. (See note below.)

Make sure your computer microphone is working at all times and (possibly) muted when you are not speaking. (See note below.)

Use headphones or earbuds, instead of speakers, if audio echo/feedback is a problem. (See note below.)

Your display name must consist of only your first and last name.

Do not sit or lie on a bed.

Wear school-appropriate clothes. No pajamas, hats, caps, hoods, or dark glasses.

Do not use a virtual background, and make sure everything visible through your camera is appropriate for an online class.

Be in a quiet location that will remain free of disruptions and distractions.

Phones, watches, and all other electronics must be nowhere near you.

Do not eat, chew gum, or listen to music.

Due to privacy and legal issues, you should never record any of our online classes.

Unless given permission by the instructor, do not use the live online chat system.

Share your screen only with instructor permission, and make sure everything you display is appropriate and directly related to our class.

Always use a gray pencil or blue/black ink when taking paper quizzes/tests.

Note: If any of these arrangements are a problem, let me know right away so that we can discuss your situation and figure out a way to resolve the problem.

Tests and Quizzes

Tests and quizzes will be given throughout the school year. They may not always be announced in advance and may not always be graded. Graded quizzes and tests may count for any number of points and/or any percentage of your overall course grade. You will generally be given an entire class period for each test, and at least 15 minutes to complete each quiz. Unless told otherwise, you will not be permitted to use any textbooks, notes, or other materials during assessments.

Assignments/Projects

Throughout the school year you will be given numerous individual assignments and projects. These may be programs that can be finished very quickly, or they may take several days or longer to complete. While you will often be able to code during the online class periods, you should always allow for the possibility that you will not be given enough time in class to complete your programs, and that much of the work will need to take place outside of the regular class periods.

Homework

Homework may be assigned periodically. You are expected to complete all homework assignments outside of the online class periods. In addition, you may find that you need to spend extensive time outside of class completing your assigned computer programs, as well as practicing the skills and techniques covered in this course. Unless told otherwise, assigned homework will be due by the end of the day of the next class period.

Extra Credit Work

Due to numerous students focusing on extra credit programs and using them to compensate for a lack of effort and poor work and time management skills with the regular assignments, I have eliminated independent extra credit projects. Therefore, to earn a high grade in this course, you must complete all of the assignments fully and correctly, and you must properly submit them on time. In addition, you will need to earn high scores on all assessments. Depending on circumstances, I may provide some extra credit opportunities in the form of extensions of selected regular or homework assignments.

Late Assignments

For each assignment or group of assignments, a specific due date and time will be given. Computer programs that are not properly and completely submitted by the day/time that they are due will still be accepted, but most likely for reduced credit.

Absences and Make-up Work

Unlike last spring, the state is now requiring that accurate attendance be taken every day for all online classes. This will be done via eSchoolPLUS. You are expected to be present for this online class every day. If you are absent from the class on a day that an assignment is due, you are expected to turn in the assignment by the end of the next calendar (not class) day. (You must also leave a note when you upload the assignment explaining why it is late.) Work not turned in at that time will still be accepted, but most likely for reduced credit. If you are absent for an extended period of time, upon your return to class you should talk with me so that we can come up with specific days by which missed work is to be turned in. If you miss a test or a quiz, upon your return to class you should talk with me to arrange a specific time to make up the assessment (most likely the next available "Mandatory Support" period). Make-up tests/quizzes may be different from the originals. It is your responsibility to see me about missed assignments and assessments. If you fail to see me immediately upon your return, you may not be allowed to make up missed work.

Tardies and Absences

To avoid spending class time taking attendance, I will generally try to take roll during the online "passing period" and then click the "Save" button in eSchoolPLUS right at the start time of each class period. This means that you must join our online classes before the start time of each period; if you have not joined an online class by the start time, you may be marked absent. However, if you are late to class, but arrive within the first ten minutes of the period, and notify me immediately upon your arrival, and then remind me at the end of the class period (or when I have a free moment), your absence will be changed to a tardy. Keep in mind that your overall course grade may be affected by excessive tardies and absences. Also, we've been told that excessive absences may trigger a response from the Redwood administration.

Cheating

If you cheat on a test, quiz, or assignment, you will receive zero points for that work, an administrative disciplinary referral will be issued, and your parents/guardians will be notified. If you engage in (non-cheating) inappropriate conduct during a test or quiz, you may receive reduced credit or no credit for that assessment. In both cases (cheating and misbehaving), additional disciplinary action may also be taken, which can include the loss of even more points and/or the lowering of your overall course grade. Note that submitting a coding project that is not entirely your own is considered cheating. If you are ever in doubt about whether a particular action is considered cheating, check with me first. If you need extra help, see me in advance of any upcoming quiz, test, or assignment due date. For additional information, see the separate distance learning "No-Cheating" contract that you and a parent/guardian are required to sign.

Extra Help

I will be available to provide extra help for students during the 75-minute "Mandatory Support" periods on Tuesdays and Thursdays. During those times I will be online so that you can share your computer screen with me. Note that those two periods are the only times that I am guaranteed to be available for extra support, so unless I indicate otherwise, you should assume that I will not be available to provide extra help on any other days or at any other times. You can, of course, always email me (dave@redwood.org) for additional support, but for most coding-related questions you will need to wait until one of the above time periods so that we can both be online and I can view your screen and help you edit your computer code. Remember, if you are having difficulty understanding a concept, it is your responsibility to seek help.

Grading Policy

With the exception of grade modifications due to conduct and participation, your course grade is based on a point system, which is cumulative for the entire semester. Marking period grades are calculated solely to be available for progress reports; these grades are not averaged. The total number of points for each semester and the percentage value of each test, quiz, and assignment will depend on how many assessments and assignments are given, as well as their individual point values. Those point values will usually be provided online, often before the date of the assessment or the start date of the assignment.

Note that marking period and semester grades are the only overall grades that I am required to produce. At my discretion, I may choose to calculate and publish your current course grade at other times during the semester. Do not ask me to confirm any grade calculations that you make on your own, or what your current grade is in the course. I will not know, and I do not calculate grades on demand. Also, do not ask what score you need to earn on an assessment or assignment in order to obtain a specific overall grade, or what your overall grade will be if you earn a certain score. I will not know the answers to those questions, and I will not make predictions.

Letter grades will generally be assigned as follows:

Below 100% down to 95% → "A"	Below 90% down to 80% → "B" range	Below 70% down to 60% → "D" range
Below 95% down to 90% → "A-"	Below 80% down to 70% → "C" range	Below 60% → "F" (failing)

Course Content

The following are general topics that may be covered in this year-long course:

Java Language Syntax	Decision Structures	Loop Structures	Preconditions & Postconditions
Global & Local Variables	Variable Typecasting	Data Encapsulation	Data Abstraction
Data Storage	Scope	Constants	Strings
Arrays	Matrices	Operator Overloading	Arithmetic Operators
Assignment Operators	Logical Operators	Object-Oriented Programming	Problem Definition & Design
Analysis of Algorithms	Input & Output	Arguments & Parameters	Exception/Error Handling
Testing & Debugging	Data Types	Instantiation	Packages
Concrete Classes	Methods	Objects	Constructors
Attributes & Behaviors	Accessors & Modifiers	Getters & Setters	Searching Algorithms
Sorting Algorithms	Big-O Notation	Composition ("Has-A")	Inheritance ("Is-A")
Polymorphism	Encapsulation	Information Hiding	Abstract Classes

Notes

I reserve the right to amend the policies, rules, and procedures outlined in this syllabus at any time, without any advance notice. I also reserve the right to change, at any time, the point value of any test, quiz, or assignment. In addition, at my discretion, and without any advance notice, I reserve the right to raise or lower your overall course grade based on your online class conduct and participation.

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Instructor: Dave Goldsmith

Course: Advanced Placement Computer Science 'A'

Date: August 19, 2020

I have read the preceding rules, procedures, and policies contained in this course syllabus and understand and will abide by them.

Student Signature

Parent/Guardian Signature

Student Name (please **PRINT**): _____