Career and Technical Education

Syllabus for AP Computer Science A

Term: 2023-2024

Teacher: Chris Jones

Teacher's Contact: christopher.jones@apsva.us

Office Hours: Warrior's Period, and by appointment

Prerequisite

Students are expected to have completed Computer Programming with a final grade of B or better. Any student who does not satisfy this prerequisite must discuss with Mr. Jones. Students may be allowed to remain in the class with instructor's approval, which will be considered on a case-by-case basis.

Course Description & Course Goals

Advanced Placement Computer Science is a rigorous course emphasizing programming methodology,algorithms, and data structures. Emphasis is placed on applications involving arrays, linked lists, trees, and sorting techniques. Many projects involve outside-ofclass practice, study, and reading. Students entering this course must have a solid knowledge of Java programming language. This course meets the requirements for AP Computer Science as outlined in the syllabus published by the College Entrance Examination Board.

Tentative Pacing Outline

NOTE Sections of this course will rely heavliy on existing high-quality online curricula. For more information about this content, see the syllabus for this course:

- CodeHS

Unit # Name(s)	Estimated Length/Dates	Formative Assessments (For Learning)	Summative Assessments (Of Learning)
Unit 0: Introduction to This Course	? Weeks		
Unit 1: Primitive Types	? Weeks		
Unit 2: Using Objects	? Weeks		
Unit 3: Boolean Expressions and if Statements	? Weeks		
Unit 4: Iteration	? Weeks	See "Assessments" below	See "Assessments" below
Unit 5: Writing Classes	? Weeks		
Unit 6: Arrays	? Weeks		
Unit 7: Array Lists	? Weeks		
Unit 8: 2D Arrays	? Week		
Unit 9: Inheritance	? Weeks		
Unit 10: Recursion	? Weeks		
Unit 10: Preparing For The AP Exam	? Weeks		

Course Competencies and/or Standards

Computer Programming standards are called competencies. You can find the competencies for this course in the College Board's Course and Exam Description Document

Syllabus Quiz

Please review this syllabus with a parent or guardian, and complete "Syllabus Quiz" in Canvas by Tuesday, September 6, 2022.

In the Syllabus Quiz, there will be a question that says "Did you read the entire syllabus?" Please use that box to tell me about your favorite animal.

Class Expectations for Students and Teacher

- Students are expected to follow the Acceptable Use Policy as well as other school policies

- Arrive on time

- Be mindful of your neighbors' workspaces

- During lecture time, please close your laptop and take off your headphones

- During work time (not quiz/test time), you are encouraged to work with others, but DO NOT do their work for them

- No food or drink in the lab area

- Keep the lab clean – no trash!
- When it is time to leave you should throw away any trash at your station, straighten the keyboard and mouse, and push in your chair

Communication Expectations

- Students are encouraged to ask for help in class, but all official requests to Mr. Jones (eg for assignment clarifications, extensions, recommendations) must be made in writing
- Mr. Jones is happy to communicate with students and their families via email, Canvas messages, and ParentSquare
- Mr. Jones makes every effort to respond to all communication within one school day
- Student messages to Mr. Jones must be formal and professional. Mr. Jones will request that students re-write emails that do not meet this standard. See this link for help writing formal emails.

Industry Credentialing Certification/Licensure

Credentials are industry certifications to validate student skill attainment to a potential employer or college admissions officer. These tests, recognized by industry, are at no cost to the student. Students in this course will be eligible to take:

Workplace Readiness Skills Exam -- Objectives found here

AP Computer Science A Exam

Career & Technical Student Organization (CTSO)

A CTSO is a required co-curricular student professional organization that aligns with the course. While some activities may be done during class time, others are extracurricular activities. The CTSO for this course is called Future Business Leaders of America (FBLA). For additional information, see https://www.vafbla-pbl.org/ or contact Mr. Welsch.

Academic Integrity

In this course, collaboration among students is encouraged. However, copying another's work or allowing your work to be copied is not acceptable and is a violation of Wakefield's academic integrity policy. Some assignments will require students to sign an honor pledge. By signing the pledge, students acknowledge their understanding of the honor policy and that they have not violated that policy in any way. The pledge states either:

"On my honor, I pledge that I have neither given nor received information on this assignment."

or

"On my honor, I pledge that I have only given [received] information on this assignment to [from] the following individual(s) ...."

Failure to abide by the honor code will result in consequences as laid out in the student handbook, but at minimum students will earn a zero on the relevant assignment.

Grading Overview

Assessments

The grade in this class is based entirely on summative assessments. Each standard will be assessed twice - once with a written exam and once with a project (usually a coding assignment).

This class utilizes both formative and summative assessments. The teacher will clearly explain which assignments are formative and which are summative. - Formative assessments are assessments **for** learning - these include programming exercises, lab assignments, teacher-guided projects, worksheets, scaffolded programming problems, writing prompts, warmups, exit tickets, and surveys. Feedback will be given for these assignments but they will not impact the final grade. Students should view these assignments as practice.

- Summative assessment are assessments **of** learning - these occur at the end of a teaching unit and after sufficient practice and feedback. These include Tests, quizzes, culminating projects, demonstrations, and research papers.

Grade Composition

Students are assessed in the categories in the table below.

Category	Weighted Percentage	Description
Formative Assessments	0%	Performance-based activities designed to allow the students to practice new skills.
Summative Assessments	100%	The student will demonstrate their competency attainment of technical skills. Includes performance-based and theoretical application.

Summative Assessments are evaluated using a points-based system, where larger-effort assignments are worth more points than smaller-effort assignments.

Source: School Board Policy I-7.2.3.34 Reporting Student Progress and Grades

Homework - Policy Implementation Procedure I-11.2 PIP-1 Homework

Homework allows students to practice, prepare, study, and extend learning. Homework is not assigned as a behavioral consequence.

- **Grades 9-12:** maximum of a total of 60 minutes per week per course; an additional 30 minutes of independent, choice reading each night is recommended. Students who are enrolled in Advanced Placement, International Baccalaureate, and/or dual enrolled courses may be assigned additional work commensurate with the expectations of the course.

Special Expectations for AP Classes

AP classes provide amazing opportunities to study diverse offerings with the rigor of college level courses. We want you to do well and succeed in these courses and encourage you to seek out all the support available to make your experience positive. As an advanced course, we do want to ensure that you are prepared for the content. As such, students are expected to perform at or above a "C" average. Students will earn extra quality points when they complete the course and Create Task and sit for the external AP examination. Students who complete both on time will be exempt from final examinations

for this course. Students who fail to submit the required Create Task will not be eligible to sit for the external examination. Failure to sit for the external examination will result in the loss of the quality point on the school transcript and they will be required to take a final exam on the date specified in the WHS calendar. If this happens, the final course grade will be an average of the four quarter grades and the final exam grade.

Arlington Public Schools (APS) pays for the examination fees for all AP and IB courses. Any student who registers for an AP or IB course, but does not take the corresponding exam or complete the required IB internal assessment (IA), will be required to reimburse APS for their examination fee(s). The cost of each exam is established by the College Board and International Baccalaureate Organization.

Retake Policy

All summative assessments have a retake/ revision option after remediation. The higher score (the original or the retake) will be used to calculate the student grade.

In order to qualify for a retake, students must first turn in all formative work for the associated unit.

All tests retakes will be accomplished via a single cumulative exam that will be given at the end of each quarter. Students will choose whether to take some, all, or none of the quarter exam.

Specific instructions, timelines, and formats for project retakes will be provided on a case-by-case basis as determined by the instructor.

Final Exam Information

This course does have a final exam. Students whose overall grade for the year is already an A may request to be exempted from the exam.

Absences

Students are expected to complete all assignments. Students who are absent are expected to check Canvas to find out what they missed and to be ready to move forward upon their return. Missed work due to an absence is expected to be completed as outlined by Arlington Public Schools Attendance Policy. Help is available to students by contacting the teacher via email to make an appointment for academic support.

Late Policy

All work will have a due date and it is important to complete the work on-time as the technical skills in this course build upon each other. While late work is not penalized in the grade calculation, there is a finite amount of time in which missing assignments will be accepted. Assignments will not be accepted later than one week from the original due date. Missing work will be recorded in the Gradebook as "Missing" and calculated as a zero until submitted and graded.

It is understood that extenuating circumstances may arise in which work cannot be submitted on-time. In such cases, the student is expected to communicate with the teacher, in advance, so a conversation regarding a solution can be discussed.

Gradebook

All graded summative assessments will be appear in Synergy. Some formative work will be completed in other platforms and will not be viewable on Canvas or Synergy.

Grading Policies

APS Grading Policy Implementation Procedures (PIP) I-7.2.34 PIP-2

Letter Grade	Percentages	Quality Points	AP, IB, and Dual Enrollment Quality Points
A	90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	4.0	5.0
B+	87, 88, 89	3.5	4.5
B	80, 81, 82, 83, 84, 85, 86	3.0	4.0
C+	77, 78, 79	2.5	3.5
C	70, 71, 72, 73, 74, 75, 76	2.0	3.0
D+	67, 68, 69	1.5	2.5
D	60, 61, 62, 63, 64, 65, 66	1.0	2.0
E	0 – 59	0.0	0.0

Note: Student grades reflect student achievement and not student behavior. Quarterly grades will round up when the percentage is .5 or higher. Work Habits, such as Homework, will be reflected in the report card comments. + = Surpasses expectations, # = Meets Expectations, ^= Approaching Expectations and N = Needs Improvement.

Calculating Final Course Grades

Final grades will be calculated using quality points. Each quarter and final exam will count for 20% of the final grade.

Grade Rounding to Determine Final Course Quality Point

3.75 to 4.0	A
3.25 to < 3.75	B+
2.75 to < 2.25	B
2.25 to < 2.75	C+
1.75 to < 1.25	C
1.25 to < 1.75	D+
0.75 to < 1.25	D
< 0.75	E

Daily Materials

- Each student must bring their fully-charged, school-issued laptop to class each day.

- Students must have and regularly check a personal, professional email address.

- Students are also responsible for knowing how to access, and regularly checking, their accounts to APS resources such as Canvas, email, and Google Drive

- We will be using a variety of internet and software resources, some of which are outlined below

- Students are recommended (*but not required*) to bring earphones to class.

Course Resources

Students should be comfortable using Canvas and StudentVUE.

In addition, we will be heavily using online resources including those listed below. Additional resources may be introduced throughout the year. Students are also invited and encouraged to discover and share their own resources.

Online Curriculum Resources:

- Project STEM
- CodeHS
- CMU CS Academy
- AP Classroom

Other Resources:

- Repl.it

Sexually Explicit Material

The course list of resources provided on this syllabus are those which are planned to be used this school year in this course. As required by Virginia Code, parents/guardians must be notified when instructional resources which contain sexually explicit content are assigned for a classroom assignment at least thirty (30) days prior to the assignment being given to the student. As instructional needs of students may vary, additional resources may be determined to be used for instruction in this course. When this occurs, parents/guardians will also be notified of the use of the resource. Upon receipt of the notification, parents/guardians may ask to review the resource and, if desired, request an alternative resource to be used with their student.