Career and Technical Education

Syllabus for Computer Programming (26638)

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 Algebra 1 with a final grade of C 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

Students in the Programming course explore programming concepts, use algorithmic procedures, implement programming procedures with one or more standard languages, and master programming fundamentals. Coding is used throughout the course. Graphical user interfaces may be used as students design and develop interactive multimedia applications, including game programs. In addition, students employ hypertext markup language (HTML) or JavaScript to create web pages. Students develop their employability skills through a variety of activities. Contextual instruction and student participation in co-curricular career and technical student organization (CTSO) activities will develop leadership, interpersonal, and career skills. High-quality work-based learning (HQWBL) will provide experiential learning opportunities related to students' career goals and/or interests, integrated with instruction, and performed in partnership with local businesses and organizations.

Tentative Pacing Outline

Unit # Name(s)	**Estimated Length/Dates**	**Formative Assessments (For Learning)**	**Summative Assessments (Of Learning)**
Unit 0: Introduction to This Course	2 Weeks	Daily Coding Activities	Unit Test
Unit 1: Introduction to Computer Programming	2 Weeks	Daily Coding Activities	Unit Test
Unit 2: Number Calculations and Data	4 Weeks	Daily Coding Activities	Unit Test

Unit # Name(s)	Estimated Length/Dates	Formative Assessments (For Learning)	Summative Assessments (Of Learning)
Unit 3: Making Decisions	4 Weeks	Daily Coding Activities	Unit Test
Unit 4: Repetition and Loops	3 Weeks	Daily Coding Activities	Unit Test
Unit 5: Graphics	5 Weeks	Daily Coding Activities	Unit Test
Unit 6: Functions	3 Weeks	Daily Coding Activities	Unit Test
Unit 7: Arrays	3 Weeks	Daily Coding Activities	Unit Test
Unit 8: 2D Arrays	1 Week	Daily Coding Activities	Unit Test
Unit 9: Internet	2 Weeks	Daily Coding Activities	Unit Test
Unit 10: Additional Topics in Computer Science	3 Weeks	Daily Coding Activities	Unit Test

Course Competencies and/or Standards

Computer Programming standards are called competencies. The Virginia course name is Programming (6640). You can find the competencies for this course at this link.

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/Licensures

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

PCEP - Certified Entry Level Python Programmer - Objectives found here

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 Ms. Naughton

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

Grade Composition

The final grade for the course is determined using a "quality points" system. Each quarter will represent 20% of the final grade, and the final exam will also be worth 20%. Each quarter, students are assessed

on the categories in the table below.

Category	Weighted Percentage	Description
Projects and Labs	50%	Performance-based activities designed to allow the students to practice new skills. These are formative assessments.
Assessments	50%	The student will demonstrate their competency attainment of technical skills. Summative assessments generally combine performance-based and theoretical application.

Each of these categories is evaluated using a points-based system, where larger-effort assignments are worth more points than smaller-effort assignments.

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.

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 items will be in Canvas, and only Interim/Quarter grades will be entered in StudentVUE/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