



AP Computer Science Principles

TEACHER INFORMATION

Teacher	Email	Phone	Location
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GENERAL INFORMATION

Course Description

The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course is unique in its focus on fostering student creativity. Students are encouraged to apply creative processes when developing computational artifacts and to think creatively while using computer software and other technology to explore questions that interest them. They will also develop effective communication and collaboration skills, working individually and collaboratively to solve problems, and discussing and writing about the importance of these problems and the impacts to their community, society, and the world.

Standards

The AP Computer Science P Course Description will be provided to each student in PDF format through itsLearning, including a detailed list of objectives and topics within each objective.

Learning Resources/Textbook(s):

- *Computer Science Illuminated*, Dale & Lewis, 6th Edition, 2016, Pearson Education, Inc. (classroom set)
- *Introduction to Programming with Greenfoot*, Michael Kolling, 2nd Edition, 2016 (.pdf provided to each student)

Supplies

- Something to write with and paper (not all of the work is done on a computer)
- Access to a computer and the Internet away from school (there WILL NOT be enough time to get programming assignments completed with only class time) is highly recommended but not required. Students with laptop computers are welcome to use them in class for programming assignments and note taking, as long as they do not become a distraction. Convenient access to power is not guaranteed.

Cost of Materials/CTSO Involvement: Due to the real-world, applicable project-based learning environment of career and technical education related to a student's unique interests, a cost of materials/CTSO membership fee is suggested for the course to assist in creating things for his or her own possession and use. If you have specific questions or concerns, please reach out to your child's CTAE teacher.

Fee: \$30.00 (Cash/Check) Due Date: August 31

AP Test Information: You can receive college credit for AP Computer Science by taking the AP CSP test. The score you need to achieve and whether you receive credit depends upon the individual college. The test is broken into two parts: two in class projects (Create & Explore) = 40% and 74 multiple choice questions = 60%. Details and deadlines for registration and payment will be shared throughout the year. It is the expectation that all students take the AP test and students with financial concerns should speak with their teacher.

- The AP test fee is ~\$123.00. More details will be provided in the September.

The new College Board exam ordering system requires that all students create a College Board account if they have not done so already. Once students create an account, they will join their specific AP class via a join code. An additional change that has occurred within the AP program concerns the ordering deadlines for AP exams. Students will be required to register and pay for AP exams during the months of September and October. Details concerning the registration and payment process will be shared with students and parents at a later date.

Java Development Environment

We will use BlueJ as our Integrated Development Environment. Students will need to download and install BlueJ Combined Installer appropriate for the operating system and type of computer. BlueJ is free and available from: <http://www.bluej.org/>

Greenfoot Interface

We will also be using the Greenfoot Interface to assist with Java programming. Greenfoot teaches object orientation with Java. Create 'actors' which live in 'worlds' to build games, simulations, and other graphical programs. Greenfoot is visual and interactive. Visualization and interaction tools are built into the environment. The actors are programmed in standard textual Java code, providing a combination of programming experience in a traditional text-based language with visual execution. Students will need to download a copy of Greenfoot to USB drive. Greenfoot is free and available from: <http://www.greenfoot.org/download>

Availability for Extra Help

The lab is open before school or after school by appointment. Additional study sessions will be posted in itsLearning. Students may also seek help during Raider Time.

Makeup Work

Make up work is defined as work assigned during a student's absence, not work assigned prior to an absence. The student has five (5) school days upon returning to school to complete make-up work. The teacher has the discretion to grant a longer period to complete the work, if there are extenuating circumstances.

On-Task Work Behavior

Since you will have time in the computer lab during this course, it is tempting to use the computers for off-task behavior (playing games, working on assignments for other classes, etc). Off-task activity, in the computer lab or in the classroom, is strongly discouraged. On-task activity will be monitored and will be reflected in your grade. Playing games on the computer is prohibited AT ALL TIMES, unless you are testing a game program that is part of an assignment. Any other game playing will result in loss of computer access. Further violations will result in parent conferences and discipline referrals.

Nature of the Work in AP Computer Science

AP Computer Science is a college-level course. Students who pass the AP exam in May often earn college credit in Computer Science (requirements for credit vary by college). As such, students should not expect to have prepared reviews handed to them prior to quizzes and tests, and they should also not expect their tests to be essentially identical to their practice problems. Computer Science requires different types of critical thinking and problem-solving skills than other high school courses. There is also much reading in the course and a great demand for a high level of reading comprehension. Regular daily reading and programming practice is necessary to excel in this course. In order to prepare students for the AP exam, it is important that parents and students understand that we cannot lower our expectations for the course. Consistent practice and willingness to seek help early when they don't understand is by far the most effective way for students to adjust and thrive at this new level of rigor.

- Students who are not prepared to make the commitment required for the elements mentioned above

and whose primary motivation in taking the course is for AP recognition/college admissions are generally not successful in this course.

- Students with poor attendance and/or poor study habits are generally not successful in this course.

Industry Credentialing/End of Pathway Assessments: Students are encouraged to select a career pathway beginning in the ninth grade that is connected to college and career goals. This course is one of three courses in the career pathway chosen by a student. At the conclusion of the third pathway course, students will be required to take an industry credentialing End of Pathway Assessment. This assessment provides students an opportunity to demonstrate what they have learned by completing an online, nationally recognized exam. Students who complete a pathway and earn an industry credential by passing the assessment will receive a graduation cord to signify their achievement.

AP Computer Science Principles is the second class in the Computer Science pathway. Students in the Computer Science pathway will take the following EOPA: ***MTA Software Development Fundamentals***

College Majors: Computer Science, Information Technology, Software Engineering, Computer Game Design and Development, etc.

Professions: Software Engineer, Computer Programmer, Computer Network Engineer, Database Administrator, Game Designer, Information Security, etc.

Dress for Success: Career and technical education pathways in Forsyth County incorporate Dress for Success Days throughout the school year. These experiences allow students to foster confidence and continue to develop a positive self-image, while understanding the importance of dressing well for their future profession. At certain intervals throughout the course, students will analyze industry standard of the profession and study the importance of dressing well for a job interview. This will culminate into being fully prepared for Community Mock Interviews which occur as students complete a career pathway.

Future Business Leaders of America

The FBLA mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs. We bring our mission to life through the application of our Motto: Service, Education, and Progress. Competencies in FBLA are integral components of both the core employability skills standards and the technical skills standards, and FBLA activities are incorporated throughout instructional strategies developed for the course.

- Promote competent, assertive business leadership
- Strengthen confidence of students in themselves and their work
- Create interest in and understanding of American business enterprise
- Encourage development of individual projects to improve home, business, and community
- Facilitate the transition from school to work
- Assist students in the establishment of career goals
- Encourage scholarship and promote school loyalty
- Encourage and practice sound financial management
- Develop character, prepare for useful citizenship, and foster patriotism

Required Assignments

Formative Assignments:

This class will have daily homework and reading. There will be a few quizzes (drills) for each unit. Homework will sometimes be collected for a grade. Students will frequently complete AP level free response questions

and these will also sometimes be collected for a grade. The major component for this portion of the grade is quiz grades, routine programming assignments and practice problems. Assignments will be turned in through itsLearning, or by inspection in class. ALL assignments must be turned in by assigned due dates.

Summative Assignments:

The summative grade will come primarily from test scores. There will be 3-4 tests in fall semester, plus a mid-term exam. There will be 3-4 tests in the spring semester, including at least one, but usually two, complete AP practice exams that will be scored for a grade. There will be at least one large programming project each semester that will be counted as a summative grade. The "Final Exam" will be a written final exam, similar in content and length to the various AP practice exams.

Independent Work Requirement (Extremely Important!):

While students will have the opportunity to work together and share ideas, both in and away from the classroom, every student is expected to turn in independent and original work. Students will not receive credit for submitted assignments that are substantially identical to work from other sources.

GRADING CALCULATIONS AND POLICY

Non-Georgia Milestones EOC Assessment Course Average

50% (1st Sem. Course Work) + 50% (2nd Sem. Course Work)
 1st and 2nd Semester Course Work = 75% Summative + 25% Formative

Concept of formative and summative assessment

<http://www.forsyth.k12.ga.us/assessmentconcepts>

Mid-Term Exam & Final Exam = 2 Summative Grades

Grading Policy			
A = 90 – 100	B = 80 – 89	C = 70 – 79	Failing = Below 70

** Formative Assessments include, but are not limited to homework, class work, practice tests, rough drafts, and sections of projects/research papers/presentations.*

** Summative Assessments include, but are not limited to unit tests, final projects, final essays, final research papers, and final presentations.*

Career Tech Grading Policies for 2019-2020

In order to receive recovery students must complete some type of remediation (i.e. coming in before/after school or during designated recovery time).

All recovery assignments are to be completed within ten school days. Based on a 100 point score a 20-point reduction will be taken off the final grade of the assignment.

All grades become locked after the 9-week grading period ends.

In the event a student is dealing with extenuating circumstances the student must have academic waiver signed by Career Tech Administrator, to allow for an extension.

The Career Tech Department will be following the county wide policy on absences from school.