Forsyth County Schools COLLEGE & Career DEVELOPMENT

FORSYTH COUNTY COURSE SYLLABUS

COURSE TITLE: Computer Science Principles E-MAIL: Mbeckley@forsyth.k12.ga.us

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Course Description: Computer Science Principles

Course #2 in the Programming Pathway:
1) Intro to Digital Technology, 2) Computer Science Principles,
and 3) Programming, Games, Apps, and Society Course #2 in
the Computer Science Pathway:

1) Intro to Digital Technology, 2) Computer Science Principles, and 3) AP Computer Science A

The End Of Pathway Assessment for the Programming Pathway is the Microsoft MTA Software Developer Fundamentals

Computer Science (CS) Principles is an intellectually rich and engaging course that is focused on building a solid understanding and foundation in computer science. This course emphasizes the content, practices, thinking and skills central to the discipline of computer science. Through both its content and pedagogy, this course aims to appeal to a broad audience. The focus of this course will fall into these computational thinking practices: connecting computing, developing computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating.

Various forms of technologies will be used to expose students to resources and application of computer science. Professional communication skills and practices, problem-solving, ethical and legal issues, and the impact of effective presentation skills are enhanced in this course to prepare students to be college and career ready. Employability skills are integrated into activities, tasks, and projects throughout the course standards to demonstrate the skills required by business and industry. Some of the technologies used are (but not limited to):

- Greenfoot: a Java language programming environment for games and simulations
- DrJava, Media Computation Library: a Java language programming environment for creation and manipulation of pictures, sounds, and videos
- Coding Bat: an on-line Java language programming resource that helps students develop algorithms to solve specific programming problems
- Android App Inventor: an on-line, block oriented programming environment for development of Android (smartphones and tablets) applications
- Scratch: an on-line, block oriented programming environment for development of games, simulations, 2D animated videos
- Alice: a block oriented programming environment for development of 3D games and animations

Whenever possible, students will be given choices on which environment they want to work in.

Students enrolled in this course should have successfully completed Introduction to Digital Technology (or previous course: Computing in the Modern World)

Standards: Course Standards can be found at:
http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Documents/Computer-Science-Principles.pdf
as well as in itsLearning.

Future Business Leaders of America (FBLA)
All students in Business & Computer Science Pathway Courses are strongly encouraged to join Future Business Leaders of America (FBLA) which is the career and technical student organization (CTSO) associated with our pathways. FBLA is the oldest and largest CTSO in the U.S. boasting over 200,000 student members. Georgia FBLA has the largest membership in the U.S. FBLA tools and activities will be utilized during class because it is a co-curricular organization

and supported in the GPS standards. Some of these activities will be graded assignments, even if the student is not a member of FBLA. The membership benefits include scholarship, leadership, networking, and competitive aspects. FBLA is open to all students on campus and offers numerous benefits to those who participate.
Learning Resources/Textbook: All learning resources will be available on-line through itsLearning.

With the emergence of technology as a tool for learning, South Forsyth High School will be utilizing various resources to assist with instruction, including itsLearning, online textbooks, and interactive websites.

The intention of this course is for all assignments to be completed during class, using the computers in the classroom. In general, personal laptops are not permitted for day-to-day use in Computer Science Principles. Exceptions may be approved by the instructor during the course of the year.

Availability for Extra Help: Help sessions are available in my room any morning between 7:30 and 8:00AM, and during IF. Other times are available by appointment.

CLASSROOM EXPECTATIONS:
Since this is a high school classroom, I expect that all students will present themselves in a mature and respectful manner. Here are some specific expectations:

- Be in your seat and ready with all necessary materials when the bell rings.
- Follow the instructions on the Digital Whiteboard for each class day.
- Respect yourself, other students, the teacher, and any other adult visitors to the classroom.
- Respect the equipment in the computer lab. Students are not allowed to alter the computers in any way. In particular, students should NEVER unplug any cable, whether it is a mouse, keyboard, power, or network cable. **Classwork:**

- Assignments are mostly self-directed so that students can work at different paces. Minimum requirements for assignments will be stated, and grades will be assigned based on students completing the requirements by the stated due dates.
- When a student has completed the required assignments, they can work on approved extension activities, such as advanced programming projects or co-curricular projects for FBLA.
- AT NO TIME should the computers be used for playing video games (unless it is a game program you are writing for an assignment, or one you are researching for an assignment), recreational web browsing, etc. Computer use is monitored by both the instructor and software.

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 make up work, if there are extenuating circumstances.

Career Opportunities:

- Software applications developer.
- Computer systems analyst.
- Computer systems engineer.
- Network systems administrator.
- Database administrator.
- Business intelligence analyst.
- Web developer.
- Computer programmer

Grading Calculations:
Course Average = 50% (1st Sem. Course Work) + 50% (2nd Sem. Course Work)
1st & 2nd Semester Course Work = 75% Summative (including Midterm in Fall and Final in spring) +
25% Formative

Work Habits will be evaluated on the report card. See itsLearning for details.

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

*Formative Assessments include, but are not limited to homework, warm ups, class work, practice tests, and sections of projects/presentations.

*Summative Assessments include, but are not limited to quizzes, unit tests, projects/presentations.

Supplies:

USB Disk Drive or cloud drive (recommended, since existence of files on school network is not guaranteed)