** Brookwood High School   
1255 Dogwood Rd, Snellville, GA 30078   
770-972-7642**

High School Course Syllabus

**Course Title Computer Science Principles Pilot Term** Fall, 2013

Teacher Crystal L. Furman room # B4

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| Email Address **Teacher Web Page** | Crystal\_Furman@gwinnett.k12.ga.us |
| Teacher Support (Help sessions etc.) | Help sessions are available Tues – Thurs after school until 2:55PM in B4 |

### Course Description

CS Principles is an introductory course that explores the broader aspects of computer science. This course will expose students to all aspects of computing, including the internet, the role of data, programming and social and global impacts. Computing is an integral part of our lives and this course will prepare students to be more competitive in whatever career field they choose.

### Course Curriculum Content

This course will follow the proposed Curriculum Frameworks, which includes Big Ideas, Key Concepts and Supporting Concepts, Computational Thinking Practices and Learning Objectives and Evidence Statements. [www.csprinciples.org](http://www.csprinciples.org) and <http://www.collegeboard.com/html/computerscience/index.html>

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| **AP Curriculum Requirements** | **Units/Topics** |
| C1 – The course provides instruction in each of the following seven content areas outlined in the AP Computer Science Principles Curriculum Framework materials:   * computing as a creative activity, * abstraction as a way to reduce information and detail * data and information to facilitate the creation of knowledge * algorithms as tools for developing and expressing solutions to computational problems * programming to enable problem solving, human expression and creation of knowledge * the Internet * the global impacts of computing   C2 – The course teaches students principles, concepts, and methodologies required to understand how computing impacts their world – how computing enables and empowers innovation, exploration, and the creation of knowledge.  C3 – The course teaches students to solve problems using a variety of computational principles, including abstraction, algorithms, data, programming, systems and networks, modeling, and simulation.  C4 – The course teaches students to design and create computational artifacts using a variety of tools and environments, both individually and in teams.  C5 – The course teaches students to communicate, verbally and in writing, designs, processes and results as related to computing. | 1. Computer Systems and Hardware 2. Number Systems and Low-Level Languages 3. Internet 4. Problem solving and algorithms 5. Coding Basics 6. Conditionals 7. Repetition 8. Data and Data Storage 9. Final Project |

### Instructional Materials and Supplies

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| **Published Materials** | **Instructional Supplies** |
| <http://chortle.ccsu.edu/java5/index.html>  <http://htmldog.com/guides/html/beginner/>  <http://nsf.gov/cise/csbytes/newsletter/pdf/vol1i3.pdf>  <http://interactivepython.org/courselib/static/thinkcspy/index.html>  <http://interactivepython.org/courselib/static/pythonds/index.html>  <http://interactivepython.org/courselib/static/everyday/2013/03/1_steganography.html> - steganography  <http://cs.smith.edu/~thiebaut/ArtOfAssembly/artofasm.html> | Computer Lab Python  Alice  App Inventor Internet Access and Online Resources  OneNote notebook  Finch Robots  JES – Jython CS Priniciples Pacing Guide |

**Evaluation and Grading**

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| **Assignments** | **Grade Weights** | **Grading Scale** |
| Classwork & Homework  Special Projects / Research Paper  Unit Tests  Weekly Quizzes  Electronic Portfolio  Final Exam | Classroom Assignment 35%  Classwork 10%  Labs / Quizzes 25%  Summative Assessment 45%  Unit Tests  Research Projects  Electronic Portfolio  Final Exam 20%  Objective 10%  Performance 10% | A: 90 and above  B: 80 – 89  C: 74 – 79  D: 70 – 73 F: 69 or below |

**Other Information**

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| **Expectations for Academic Success** | **Additional Requirements/Resources** |
| 1. Read daily 2. Ask questions 3. Participate constructively as a team member 4. Proof read written assignments and edit meaningfully 5. Review multiple sources of information 6. Challenge yourself to continuously improve | * Tutoring Available * Helpful Resources * Community Support Services * Lab Safety Procedures |

*The syllabus may be updated as needed throughout the semester.*