

CLASS SYLLABUS

COURSE TITLE:

Computer Science Principles

COURSE #:

11.4710000 (Note: This is not the AP course.)

COURSE DESCRIPTION

How can computing change the world? What is computer science? Engage your creativity, demonstrate and build your problem solving ability all while connecting the relevance of computer science to the society! 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.

Computer Science Principles is the second course in the pathways Programming and Computer Science in the Information Technology Cluster. Students enrolled in this course should have successfully completed Introduction to Digital Technology.

INSTRUCTOR:

Mr. Kenneth Lee

PREREQUISITES:

Intro to Digital Technology

PROGRAM CONCENTRATION:

Business Education & Computing

PROGRAM PATHWAY:

Computer Science or Game Design

CAREER OPPORTUNITIES:

Game Developer / Programmer, Applications Programmer, Systems Analyst, IT Consultant, Software Developer, etc.

TEXTBOOK(s):

No textbook is assigned at this time.

SOFTWARE:

We will utilize a variety of software during this course including LightBot, Javascript, Python, CodeHS, Code.org widgets, HTML and various other online tools and utilities!

METHODS OF INSTRUCTION:

Class lecture/demonstration, question/answer, individual and group work, on-line work, computer lab instruction, audio-visual aids, student reports/projects, case studies, and guest speakers.

COUNTY RECOVERY POLICY:

Opportunities designed to allow students to recover from a low or failing cumulative grade will be allowed when all work required to date has been completed and when the student has demonstrated a legitimate effort to meet all course requirements including attendance. Students should contact the teacher concerning recovery opportunities. Teachers are expected to establish a reasonable time period for recovery work to be completed during the semester. All recovery work must be directly related to course objectives and must be completed ten school days prior to the end of the semester.



**ROSWELL
RECOVERY
POLICY**

When a student's overall grade falls below 70, he/she will be allowed the opportunity to re-take major assessments, earning no more than 75% of the original max score. Prior to attempting recovery, student should have demonstrated legitimate effort in remediation (reviewing previous assessment with teacher, attending extra help sessions, etc.) Students should initiate the recovery process by letting teachers know that they want to do recovery within 5 days of grade being posted in Home Access. All recovery must be completed 10 days before the end of each semester.

SUPPLIES:

Student Agenda, Binder / Notebook, Pen / Pencils, Box of Tissues (requested), one ream of 8.5x11 printer paper (requested), one USB port flash drive (recommended)

**TEACHER
CONTACT:**

The best way to reach me is via email at Lee@fultonschools.org
I encourage all students who have questions to see me for extra help as soon as they need it! Office hours can be found on my web site at the address below.

**TEACHER
WEB SITE:**

Course information can be found at
www.MrLeeComputing.org

CURRICULUM

IT-CSP-1 Demonstrate employability skills required by business and industry. Demonstrate creativity by asking challenging questions and applying innovative procedures and methods. Exhibit critical thinking and problem-solving skills to locate, analyze and apply information in career planning and employment situations. Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity. Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply teamwork skills. Present a professional image through appearance, behavior and language.

IT-CSP-2 Create digital artifacts that foster creative expression including programs, digital music, videos, images, documents, and combinations of these such as infographics, presentations, and web pages.

IT-CSP-3 Apply abstractions in digital data to explain how bits are grouped to represent higher-level abstractions such as numbers and characters.

IT-CSP-4 Design and create computer programs to process and extract information to gain insight and knowledge.

IT-CSP-5 Develop, express, implement, and analyze algorithms analytically and empirically.

IT-CSP-6 Create programs that translate human intention into computational artifacts including music, images, visualizations, and more while exploring the concepts, techniques and development used in writing programs.

IT-CSP-7 Gain insight into the operation of the Internet, study characteristics of the Internet and systems built upon it, and analyze important concerns, such as cybersecurity.

IT-CSP-8 Develop a logical argument from the many ways in which computing enables innovation and our methods for communicating, collaborating, problem solving, and doing business, and analyze the potential benefits and harmful effects of computing in the way people think, work, live, and play.

IT-CSP-9 Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.

NOTEBOOK

Students are expected to keep all work for this course in a 3-ring binder. The notebook should be divided into five sections, which should be labeled as follows:

- Notes / Handouts
- Homework / Classwork
- Programming Assignments
- Quizzes / Tests
- Reference / Exam Prep

EVALUATION

Tests – Tests help to prepare students for the AP examination by using both multiple-choice and free-response questions. There will be one test administered for each chapter. Each test will be announced in advance. Any student absent the day of the review will be expected to take the test with the class on the scheduled day.

Major Programming Projects – A major programming assignment is one that combines a series of concepts into one challenging program. This assignment may require both in-school and out-of-school effort. There will be several major labs assigned each semester. For each assignment, you will be required to turn in a hard copy AND save the assignment to the appropriate folder on the shared drive. Labs are intended to be individual work. You will receive limited assistance from me and a set amount of time to complete the assignment. You must adhere to the class policies of ethics in creating code. Failure to do so will result in the issuing of an Honor Code Violation and a zero on the assignment.

Lab Exercises, Programming Problems, Homework, and Quizzes – All are assigned at the teacher's discretion. No late work will be accepted!!! Lab exercises are programming assignments or worksheets that focus on a single new concept as well as previous material. Quizzes are designed to determine whether students are keeping up with their assigned reading and will most likely be unannounced.

Final Exam – The comprehensive final exam administered at the end of each semester will be worth 15% of the semester grade. No exemptions for Honors or Advanced Placement courses will be granted.

Make-up Work Policy

Attendance is very important. Excessive absences will likely prevent students from successfully completing the course. It is solely the student's responsibility to make contact with the teacher to initiate all make-up work. I encourage you to obtain at least two phone numbers of other classmates who can be contacted for make-up work or assistance with assignments. Please read and follow the Roswell High School policy on make-up work as printed in your student agenda. Students are expected to make up missed tests and quizzes as soon as possible and they only may be made up before or after school during the times designated in the beginning of this document. According to school policy, work made up due to an unexcused absence will receive a 10% grade reduction.

Computer Science Plagiarism Statement

Plagiarism is the act of copying someone else's work without permission. Plagiarism can refer to the replication of a written work verbatim, or merely the reproduction of someone else's ideas. Acts of plagiarism might include, but are not limited to 1) copying a classmate's code; 2) using code from a published source without proper documentation; 3) using excessive editing suggestions of another student, parent, or tutor. Plagiarism on any project at Roswell High School will result in a zero for the assignment and an honor code violation. Unless directly stipulated by the teacher, collaboration on computer programs is not acceptable. Cheating on tests will result in a zero for that assignment. For more information on the honor code policy, please refer to the student agenda. Students who willingly provide other students with access to their work are also in violation of the Honor Code.

Classroom Plagiarism Policy

In the comment section of each program, students will have an opportunity to list sources of assistance they have received (including web addresses, parents, other students, etc.) This line is required, and students, by leaving it blank, are stating that they received no assistance in writing the program.

Computer Usage Policy

1. I will limit my use of technology in school to the educational objectives established by my teachers;
2. I will not retrieve or send unethical, illegal, immoral, inappropriate or unacceptable information;
3. I will follow the rules on network etiquette, which includes the use of appropriate language and polite responses. I will not use abusive language of any type, including swearing and name-calling;
4. I will not share my home address or phone number with another user for any purpose;
5. I understand that information received on-line is private property, unless specified. I will not plagiarize information received in any form;
6. I will not use or access another person's account, and I will not share my password with anyone else;
7. I will not attempt to bypass the security built into the system or network, and I recognize that doing so will result in immediate cancellation of my privileges as well as disciplinary measures dictated by this school's administration;
8. I will not interfere with or disrupt network users, services or equipment. Disruptions include, but are not limited to, distribution of unsolicited advertising, propagation of computer viruses, and using a network to make unauthorized entry to any other machine accessible via a network;
9. I will not use technology access provided by Fulton County Schools for illegal purposes of any kind;
10. I will not use technology access to transmit threatening, obscene, or harassing materials
11. I will not engage in any on-line chat rooms nor play any on-line games unless specifically authorized to do so by my teacher for educational purposes;
12. By signing this waiver and consent, I understand and agree that Fulton County Schools will not be held responsible if I participate in any such activities;
13. I understand my responsibility as a user of telecommunications. I have read the above rules and realize that any infraction will cancel my user privileges and may result in further disciplinary action, including suspension from school.
14. I agree to adhere to any additional computer usage policies as set forth in the school agenda.

Class Participation – Professional Development with SkillsUSA

Students must accrue 100 Professional Development points per semester. They may gain these points in the following ways:

- Joining Skills USA= 30 points!
- Attending a Skills USA Meeting (as a member) 10 points
- Participating in a Skills USA Day of Service 20 points
- Participating in a Skills USA Field Trip or Competition 20 points per day
- Helping to create/ update Skills USA Bulletin Board 10 points
- Write a Summary and Critique of a relevant computer science white paper/article (minimum 2 pages – single spaced) Topic must be approved by Mr. Lee. 20 points

--- FOR PARENTS ONLY ---

Student Work/Picture/Print Release Form for Minors

*Please initial and sign below if you grant permission.

(initials) _____ Roswell High School and the Career & Technical Education Department has my permission to publish my child's work/picture/print material in the media to help promote the school's programs.

(initials) _____ You may also use my child's student work/picture/print material on the World Wide Web to help promote the school's programs.

Parent/Guardian's Signature: _____ Date _____

Parent/Guardian's Name: _____

Child's Name: _____

Advisory Council Participation for Parents

An initiative in place to create a stronger bond between the school, local business, and our community is the creation of a Program Advisory Council for each area of Career & Technical Education including;

- Business Education & Computing
- Cosmetology
- Engineering
- Family & Consumer Science
- Video Broadcast Production

*Please circle your area of expertise above and then sign below if you would like to join our advisory council and help us create a better connection between school and the community as well as improve instruction within our programs! Thank you!

Parent/Guardian's Signature: _____ Date _____

Parent/Guardian's Name: _____

Job Title & Employer: _____

Best Contacted by Phone: _____ - _____ - _____

Email address: _____ @ _____



Roswell Membership Form

SkillsUSA is a partnership of students, teachers and industry representatives working together to ensure America has a skilled workforce. SkillsUSA helps each student to excel. SkillsUSA is a national organization serving teachers and high school and college students who are preparing for careers in technical, skilled and service occupations!

SkillsUSA empowers its members to become world-class workers, leaders and responsible American citizens. SkillsUSA improves the quality of America's skilled workforce through a structured program of citizenship, leadership, employability, technical and professional skills training. SkillsUSA enhances the lives and careers of students, instructors and industry representatives as they strive to be champions at work.

More than 300,000 students join SkillsUSA annually!

Student ID: _____ School Year: _____

Date: ____/____/____ Grade: _____

Name: _____

Address: _____

City: _____ State: _____ ZIP: _____

Home Phone: _____

Student Cell Phone: _____

Student Email Address: _____

Parents' Names: _____

Parents' Phone: _____

Schedule:

Teacher	Subject	Teacher	Subject
1st		5th	
2nd		6th	
3rd			
4th		Lunch Period: A B C D Circle one	

Membership fee enclosed

I was a member last year

***** **THIS MEMBERSHIP IS WORTH 30 CLASS PARTICIPATION POINTS!** *****

THE MEMBERSHIP FEE INCLUDES A T-SHIRT !

JOIN US FOR THE SKILLS USA MEMBER COOKOUT! FREE FOR ANYONE THAT JOINS!
OUR GOAL IS TO GROW MEMBERSHIP SO INVITE A FRIEND!!!
THANKS FOR YOUR SUPPORT ☺