

# *Harris County High School*

## COMPUTER SCIENCE PRINCIPLES

### COURSE SYLLABUS

---

**COURSE TITLE.....COMPUTER SCIENCE PRINCIPLES**

**TERM..... SEMESTER**

**TEACHER.....MR. STEVE CHILDERS, ED.S.**

**ROOM..... # K-1**

**EMAIL.....CHILDERS-S@HARRIS.K12.GA.US**

**Student Support Hours..... 2:40 - 3:45 WEDNESDAYS**

#### **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.

This Computer Science Principles (CS Principles) curriculum is a rigorous, entry-level course that introduces high school students to the foundations of modern computing. The course covers a broad range of foundational topics such as programming, algorithms, the internet, big data, digital privacy and security, and the societal impacts of computing. The core of the curriculum was developed by Code.org and endorsed by the College Board.

## COURSE CURRICULUM CONTENT

COURSE STANDARDS	UNITS/TOPICS
IT-CSP-1 Demonstrate employability skills required by business and industry	<p><b>Material will not necessarily be covered in this order.</b></p> <ol style="list-style-type: none"> <li>1. Leadership development and employability skills</li> <li>2. Project based creative expression using technology</li> <li>3. Abstraction using digital data</li> <li>4. Functional programming</li> <li>5. Algorithms</li> <li>6. Expressing human intention through digital techniques</li> <li>7. Internet operation and function</li> <li>8. Effects of technology on society</li> <li>9. FBLA – entrepreneurship development, competitive events, professional communication</li> </ol>
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 a the way people think, work, live, and play.	
IT-IDT-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.	

## INSTRUCTIONAL MATERIALS AND SUPPLIES

Published Materials	Instructional Supplies
All instructional material will be provided in digital format. There is not a hard copy textbook for this course.	paper, pen or pencil, headphones

## GRADING AND ASSESSMENTS

Grade Weights		Grading Scale
<b>Test/Quizzes</b>	<b>30%</b>	A: 90 – 100
<b>Projects</b>	<b>30%</b>	B: 80 – 89
<b>Classwork</b>	<b>15%</b>	C: 70 – 79
<b>Employability Skills</b>	<b>15%</b>	F: 69 or below
<b>Nine Weeks Exam</b>	<b>10%</b>	

## ACCEPTABLE USE POLICY

All students and a parent/guardian must agree to the acceptable use policy before using computer technology at Harris County High School. The “Harris County Schools Cybersafety Use Agreement” outlines the rules and responsibilities related to use of personal and school technology. All violations of the acceptable use policy will result in a disciplinary referral to the Administration of Harris County High School.

### CLASS POLICIES:

- ◆ Students are expected to be in their seat when the bell rings, otherwise a tardy will be recorded. Detention will be assigned for the second and subsequent tardy each nine weeks. Timeliness is part of each student’s Employability Skills grade.
- ◆ Due to the presence of electronics, food and drinks are only allowed in the designated area.
- ◆ Students requesting a restroom break must have their agenda initialed by the teacher and leave mobile electronics in the classroom at the teacher’s desk.
- ◆ Make Up Work - Refer to page 20 of the Student Handbook. Unexcused absences will result in an 11% grade reduction for any make up work.
- ◆ Students are expected to conform to all rules and regulations as defined in the Harris County High School Student Handbook.
- ◆ The classroom is managed like a workplace. Students will be given an “employment contract” and receive an Employability Skills grade based on following the contract.
- ◆ Because most assignments require a computer, internet access, or specialized software, students will not be assigned homework. However, make up work due to an absence may require completion outside of normal academic hours.
- ◆ Assignments turned in late will receive a 10% grade deduction per school day after the due date.

This page  
Intentionally  
left blank.

## COMMITMENT AND CONTACT INFORMATION

By signing below, I am stating that I have read, understood, and I will encourage my student to adhere to the class syllabus and behavioral expectations. I also understand that I am encouraged to contact the teacher if I have questions or concerns about my student's performance in this course.

By signing below, I am stating that I have read, understood, and I will adhere to the class syllabus and behavioral expectations. I also understand that I am encouraged to check with my teacher if I have questions or concerns about grades or assignments in this course.

\_\_\_\_\_  
Parent/Guardian Name(s)

\_\_\_\_\_  
Student Name

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Parent/Guardian Preferred Contact Number

\_\_\_\_\_@harriscountyschools.org  
Student Google ID

\_\_\_\_\_  
Parent/Guardian E-Mail address

\_\_\_\_\_ Block

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

### A note to students

I look forward to working with each of you. I encourage you to see me at any time if you have questions or concerns about the course or any of the material. I will always be glad to schedule a time to help you if you are ever struggling with anything in the class. Please do not hesitate to ask for help.

### A note to parents/guardians

Please feel free to contact me to discuss any questions or concerns about your student's progress in this class.

I encourage both students and parents/guardians to use Parent Portal. I will work diligently to post grades in a timely manner.

**HARRIS COUNTY SCHOOLS IMAGE PERMISSION, INTERNET USE AND  
COMPUTER/INTERNET BASED SYSTEM AGREEMENT**

**(This form must be completed and returned before student may use computers)**

**STUDENT:** I understand and will abide by the Acceptable Internet Use Policy and any Computer/Internet based system's guidelines for Harris County Schools outlined in the Student-Parent Handbook. I further understand that any violation of these regulations is unethical and may constitute a criminal offense. Should I commit any violation, my access or use privileges may be revoked and school disciplinary action and/or legal action may be taken. While using any Computer/Internet Based system I will NOT alter, disassemble, change or modify any component in the software. I will use Computers or the Computer/Internet Based system in the way the vendor and my teacher intends to gain maximum benefit for these computerized resources. The use of the Internet is a privilege, not a right and inappropriate use will result in a cancellation of those privileges. (Each student who receives a Computer/Internet based system's password shall participate in an orientation with a faculty member pertaining to the proper use of the system).

**PARENT:** As a parent or guardian of this student, I have read the Acceptable Internet Use Policy and the policies regarding use of computers and Computer/Internet Based system for Harris County Schools outlined in the Student-Parent Handbook. I understand that my signature grants permission for my child's image and/or work to be used as stated in the Use of Student Image and Student Work policy. I understand that the Internet access and Computer/Computer/Internet Based system's use is designed for educational purposes only and that Harris County Schools have taken precautions to eliminate controversial materials. However, I also recognize it is impossible for Harris County Schools to restrict access to all controversial materials, and I will not hold them responsible for materials acquired on the internet. Further, I accept full responsibility for supervision if and when my child's use is not in a school setting. I hereby give permission for my child to use the Internet and the Computer/Computer/Internet Based system. I certify that the information contained on this form is correct. I further understand that an attempt by my adolescent to alter, disassemble, change or modify any component in the software will result in the appropriate disciplinary-actions outlined in the Student-Parent Handbook.

**Student Name (Please Print)**

\_\_\_\_\_  
(Last)

\_\_\_\_\_  
(First)

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Advisor/Homeroom

**Parent/Guardian Name (Please Print)**

\_\_\_\_\_  
(Last)

\_\_\_\_\_  
(First)

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date