

**WELCOME!**

AP Computer Science Principles is an introductory college-level computing course. Students cultivate their understanding of computer science through working with data, collaborating to solve problems, and developing computer programs as they explore concepts like creativity, abstraction, data and information, algorithms, programming, the internet, and the global impact of computing.

**Materials**

* Charged Chromebook and Headphones
* Three Ring Binder with loose leaf paper
* Pencils, Pens, Erasers

**AP Exam**

Section 1 – Multiple-choice questions | 70% of Score

* 70 multiple choice questions on the AP Exam in May

Section 2 – Create Performance Task | 30% of Score

* A minimum of 12 hours of class time will be devoted to developing a computer program to submit to the College Board

**Grading Policy**

*Homework:* Homework will be assigned on a daily basis. Some homework assignments will be given online while other homework assignments will be given as worksheets.

*Notes:* Notes will be given daily in class. Notes will be given either as a lecture, video, or group activity. You will receive handouts of the notes and are expected to keep ALL notes organized in your binder.

*Quizzes:* Quizzes will be given occasionally to check on your progress made in a chapter. They will be non-calculator and will be a mixture of multiple choice and free-response.

*Tests:* Tests will be given at the end of each chapter. Standardized test questions will be included on each test. Also, tests will have multiple choice and written free response style questions to follow the format of the AP exam. These questions will not only ask you to solve problems, but they will ask you to explain your understanding of the question and answer in paragraph format.

*Final Exam:* There will be a final exam given at the end of each semester. The weight of these exams is still to be determined but it will mirror and be graded similar to the AP Exam.

**Types of Assessments and Weighting**

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| --- | --- | --- |
| Major Assessments | Exam, Project, Presentation, portfolio | 60% |
| Quizzes and Daily Work | Daily Journals, Projects, Independent Practice, Guided Practice, Exit Tickets  | 40% |

**District Policy:**

* Students with an EXCUSED ABSENCE from school (including off-campus suspension) will have the opportunity to make up missed work at **the rate of one day for one day missed**, with a maximum of five days. Student will receive a zero for any major or minor assignment not made up within the allotted time.
* Students with an UNEXCUSED ABSENCE may not make up missed work; however, if the unexcused absence is determined to be caused by an extenuating circumstance, makeup work may be allowed. The grade for the makeup work will be no higher than a 70.
* All students will be given up to 3 additional school days to redo a FAILING MAJOR ASSIGNMENT but the grade will be no higher than a 70. The teacher has the option of assigning an alternative major assignment and may require additional tutoring, assignments, etc., as appropriate. The teacher will indicate in the gradebook that the assignment was redone. **This provision does NOT apply to Honors, Dual Enrollment (taught by Sharyland ISD teachers), or AP students.**

* All students will be given 3 additional days **(2 days for Honors, AP, and DE taught by SISD teachers)** to make up LATE MAJOR ASSSIGNMENT and may be required additional tutoring, assignments, etc., as appropriate (with a progressive grade penalty of 10 points per day, 15 points/day for Honors/AP/Dual Enrollment taught by Sharyland ISD teachers). **Honors/AP/ Dual Enrollment (taught by Sharyland ISD teachers) students will not be allowed to submit late minor work.**
* The cumulative average for a nine-week grading period in high school course work and for the three reporting periods in junior high course work will count as 80% of the final semester grade. SEMESTER EXAMS will be comprehensive and count as 20% of the semester grade.
* Should the semester exam cause a student to fail the semester, the student has the option of retesting. The student must retest within 3 days, and the retest will be the sole responsibility of the student. The retest grade will be no higher than a 70.

**Class Work**

Students are advised to devote time every day for homework and review. Since this is a college level course, they will be expected to spend the necessary time to practice and learn the material. Class attendance is extremely important.

Students will be responsible for all of their own work. Working with others on homework is great for help in understanding, but everyone must have their own answers.

Students will also work in groups especially early in the learning process on some topics. You are asked to be helpful and explain to other students who might need help in understanding and listen to the approach others have taken in solving problems. Often, several approaches lead to the same answer and knowing multiple approaches helps your chance at success.

**AP Computer Science Principles Tentative Course Outline**

**Unit 1: Introduction to Computer Science**

* Lesson 1: What is Computer Science?
* Lesson 2: Hardware, Software, and Languages
* Lesson 3: Creative Development

**Unit 2: Digital Information**

* Lesson 1: Binary, Decimal, and Hexadecimal
* Lesson 2: Overflow Errors
* Lesson 3: Data
* Lesson 4: Sounds and Images on a Computer
* Lesson 5: Data Compression

**Unit 3: The Internet**

* Lesson 1: Welcome to the Internet
* Lesson 2: Wires, Cables, and Wifi
* Lesson 3: Packets, Routing, and Reliability
* Lesson 4: HTTP, HTML, IP Addresses, and DNS
* Lesson 5: Parallel and Distributed Computing
* Lesson 6: Digital Divide

**Unit 4: Big Data and Privacy**

* Lesson 1: Big Data
* Lesson 2: Data Tracking
* Lesson 3: Cyber Attacks
* Lesson 4: Data Encryption

**Unit 5: Introduction to Programming**

* code.org’s Intro to Apps
* code.org’s Intro to Design Mode
* code.org’s Intro to Programming

**Programming Part 1**

* Variables
* Conditionals
* Procedures

**Programming Part 2**

* Lists
* Loops
* Robot
* Transversals
* code.org’s Hack-A-Thon Project (Practice Create PT)

**Python Programming**

* Lesson 1: Sequencing with Python
* Lesson 2: Conditionals with Python
* Lesson 3: Iteration with Python
* Lesson 4: Procedures with Python
* Lesson 5: Lists with Python
* Python Project

**Create PT**

* 12 Hours of class time devoted to the Create PT

**Unit 6: Social Issues in Computing**

**Classroom Expectations, Rules, Procedures, Policies, and Guidelines**

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| --- | --- |
| **Expectations / Rules** | **Procedures** |
| 1. Respect your classmates and your teacher.
2. Put away all electronics and headphones before coming into class.
3. Raise your hand to speak or leave your seat.
4. Keep our space safe and clean.
5. Be on time and prepared for class.
 | 1. Look at the screen for any supplies needed and have them ready.
2. Start on work after entering the class.
3. Listen attentively and participate.
4. Keep up with the google classroom.
5. Turn in assignments to the google classroom or, when asked, to the designated area in class.
6. Wait for the teacher to dismiss the class.
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***Academic Honesty:***

Academic misconduct includes academic dishonesty, cheating, and plagiarism. Academic misconduct is considered both an academic and a non-academic behavior issue. Grades on assignments that are plagiarized or that were earned through academic misconduct do not accurately reflect the level of the student’s academic achievement. The determination that a student has engaged in academic misconduct will be mostly based on the judgment of the classroom teacher or other present supervising professional employee, taking into consideration written materials, observation, or information from students. A grade of zero will be recorded for these assignments.

By signing this page and giving it to Mr. Cole, I am confirming that I have read carefully, understand and agree with and will follow all of the guidelines, statements and requirements of this class. I understand that the grade I earn in this class is my responsibility to earn and to track with Skyward. I understand that our class is a learning community. I will support my learning and the learning of my classmates and instructor by coming to class prepared, participating fully and completing my work. I commit to giving my best effort throughout the year of and seek out my fellow students to support my success.

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**Student Signature Printed Student Name ID number**

As a sign of support and acknowledgement, parents/guardians are asked to sign and date as well. Please include your email address and cell phone number if you wish.

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**Parent Signature Printed Parent Name Contact info**

Please include any other information you would like your teacher, Mr. Cole, to know.

Thank you! We are looking forward to a great semester!