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Hamilton High School
COURSE SYLLABUS
2022-2023

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Course Name: AP Computer Science Principles

Instructor: Mrs. Xiaobo (Bonnie) Zhu

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> <u>Tutoring Hours:</u> Tuesdays & Thursdays 2:30-3:30 pm or by appointment.

Course Description: AP Computer Science Principles
Computer Science Principles (CS Principles) curriculum is a full-year, rigorous, entry-level course that introduces high school students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. The course covers a broad range of foundational topics such as programming, algorithms, the internet, big data, digital privacy and security, and societal impacts of computing. The course assumes no previous computer knowledge, but students must have taken Algebra 1.

Curriculum Overview and Goals
Computing affects almost all aspects of modern life, and all students deserve an education that prepares them to pursue the wide array of intellectual and career opportunities that computing has made possible. This course seeks to provide foundational knowledge and skills to meaningfully participate in our increasingly digital society, economy, and culture.

Unit	Description
Unit 1 (14 lessons) Digital Information	Explore how computers store complex information like numbers, text, images, and sound and debate the impacts of digitizing information.
Unit 2 (9 lessons) The Internet	Learn about how the Internet works and discuss its impacts on politics, culture, and the economy.
Unit 3 (11 lessons) Intro to App Design	Design your first app while learning both fundamental programming concepts and collaborative software development processes.
Unit 4 (15 lessons) Variables, Conditionals, and Functions	Expand the types of apps you can create by adding the ability to store information, make decisions, and better organize code.
Unit 5 (18 lessons) Lists, Loops, and Traversals	Build apps that use large amounts of information and pull in data from the web to create a wider variety of apps.
Unit 6 (6 lessons) Algorithms	Design and analyze algorithms to understand how they work and why some are considered better than others.

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Unit 7 (11 lessons) Parameters, Return, and Libraries	Learn how to design clean and reusable code that you can share with a single classmate or the entire world.
Unit 8 (18 lessons) Create PT Prep	Practice and complete the Create Performance Task (PT).
Unit 9 (10 lessons) Data	Explore and visualize datasets from a wide variety of topics as you hunt for patterns and try to learn more about the world around you.
Unit 10 (14 lessons) Cybersecurity and Global Impacts	Research and debate current events at the intersection of data, public policy, law, ethics, and societal impact.

Textbook and Resources:

AP CSP instructors in CUSD currently adopt the curriculum created by Code.org, which is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science Principles (AP CSP). Coursework will center around contents and resources on Code.org as well as on AP Classroom of College Board website https://www.collegeboard.org/

Required Course Materials:

A notebook, college ruled or wide ruled, designated for Computer Science Principles class only.

Lab Fee: $20 (paid to Hamilton High School bookstore)

Privacy: We will be using the Code.org tools and resources as well as AP Classroom on College Board and Google Classroom. All students will be creating a Code.org student account and a College Board student account in class. For information regarding data & privacy, refer to https://code.org/privacy, https://privacy.collegeboard.org/ and https://edu.google.com/why-google/privacy-security/ .

Grading System:

Grades are figured on a point system and updated in Infinite Campus weekly. Points are accumulated from active participation, tests, quizzes, classwork, homework, and projects. *** I do not grade on a curve. I do not "round up" points. Grades are calculated using whole numbers and have already been rounded up at 0.5 and above. ***

Points to letter grade conversion:
      90-100 = A   **80-89 = B**   **70-79 = C**   **60-69 = D**   **59 or lower = Failing (F)**

Semester grades are calculated based on grades of two quarters and final exam that are weighted as follows:
      Fall semester grade = Quarter 1 grade * 40% + Quarter 2 grade * 40% + Final Exam grade * 20%
      Spring semester grade = Quarter 3 grade * 40% + Quarter 4 grade * 40% + Final Exam grade * 20%

Quarter grades are calculated based on grades of classwork, homework, projects, tests and quizzes, which all bear the same weight with different points assigned.

Homework/Class Work: Homework is necessary for success. Students will have homework some nights. Homework and nightly study time are necessary for the highest achievement. Classwork and projects will also be assigned and graded on a daily basis. All work, if hand-written, is to be written in a neat, legible manner on clean paper. Any illegible or sloppy assignments will be returned. All assignments are subject to point deduction for incompletion, spelling, grammar, and punctuation errors. **It is the student's responsibility to maintain all work until it is collected. If the student loses their work, he/she will receive no credit for those assignments.**

Tests and Assessments: There will be a test at the end of each unit and four major apps development projects over the year. These assessments will be over materials from our curriculum.

Late Work Policy: Work is late if it is not turned in on the designated date by the designated time. 10% of points will be deducted for each school day of late submission for up to five days. Work will not be accepted after five school days. This policy applies to all assignments. **Assignments may never be late** unless it is due to an excused absence. Unusual circumstances will be discussed with the students on an individual basis.

AP Exam: This course is designed to prepare students for the AP exam. This exam is the driving force for the curriculum taught throughout the year. More details regarding the exam will be provided. Please also refer to the AP section of the HHS website at https://www.cusd80.com/Page/15445 for more information.

Academic Integrity:
- Every student is expected to do their own work. The student's grade is a determination of their mastery of the content, not someone else's. Any students caught cheating on any assignment, test or exam **will receive a zero**, will be referred to administration, and a phone call to parents will be made.
- Cheating includes talking to another student during a test, quiz, or exam, copying another student's work, and having someone else do the work for you, either in or out of class. BOTH PARTIES, the person who copied the work and the person who allowed the person to copy, will receive the consequences listed above.
- Copying from any source, including the Internet, without giving the source proper credit, is plagiarism and is considered cheating. Any written material borrowed from another writer must be given the appropriate credit. Please ask any questions you may have about citations **well in advance** of the due date of the assignment.
- That said, collaboration is an important component of this class and of any creative process. Students are encouraged to help each other when difficulties arise. Just make sure to give credit where credit is due.

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Classroom Management Plan: The Student Handbook can be found at **https://www.cusd80.com/Page/15353**, which covers in detail what is expected of you with regard to your behavior in the school and in the classroom. Additionally, there are rules that are specific to this classroom.

- Come to class on time. Attendance will be taken at the bell. Entering after the bell has rung will count as tardy.
- Upon arrival, students should log on to their computer in preparation for the day's activities. At the end of the class, students are expected to put the computer's keyboard on top of the computer stand or return the school laptop to the COW and plug it in to the power cord.
- This course takes place in a computer lab. Students are expected to respect school properties.
- Come to class prepared to learn and participate in class activities.
- Be respectful of the teacher and other students as well as substitute teachers or guest speakers. Negative comments or actions of any kind will not be tolerated.
- No food or drink in the classroom except water in containers with caps.
- No use of cell phones or other technology without authorization of teacher.
- Ask for teacher's permission before leaving the classroom.
- Bathroom use requires signing in and out on designated sign in/out paper and the teacher will issue a blue Husky Bathroom Pass.

The possible consequences of off-task or disruptive behavior are as follows:
- First offense – verbal warning
- Second offense – conference with student
- Third offense – phone call and/or conference with parent
- Fourth offense – referral to administration

Absences:
For EXCUSED absences, students have 24 hours from the day of absent to turn in make-up work. Long absences due to extended illness may be granted extensions. Students will be expected to take quizzes or tests upon their return if the assessment was announced prior to the absence. Therefore, the student is expected to return from an absence prepared. It is the responsibility of the student to make up work that was missed due to any absence.

A.R.S. §15-803 (B) states that absences may be considered excessive when the number of absent days exceeds ten percent of the number of required attendance days prescribed in A.R.S. §15-802. Ten percent equates to nine (9) days of absences per semester regardless of whether they are excused or unexcused. Students with excessive excused absences will be required to provide medical documentation to remain in class and excuse any further absences. If additional absences occur, and medical documentation is not provided, the student will be referred to administration.

Tardies: Tardies are not permitted. It is imperative that students be in their seats when the bell ring. The school has implemented consequences for tardies, regardless of reason. Consequences include teacher resolution, detention, and/or referral.

Technology:

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The CUSD Governing Board intends that technological resources provided by the District be used in a safe, responsible, and proper manner in support of the instructional program and for the advancement of student learning. CUSD views the use of electronic resources as central to the delivery of its educational programs, and as such maintains the expectation that all students will use electronic resources as an essential part of their learning experiences. It is the policy of CUSD to maintain an environment that promotes ethical and responsible conduct in all electronic resource activities by staff and students.

The District reserves the right to monitor use of the District's systems for improper use without warning or prior consent. Students shall be informed that computer files and electronic communications, including email, are not private and may be accessed by the District at any time. When a student violates any part of the policy, the principal or designee may cancel or limit the student's user privileges or increase supervision of the student's use of technological resources as appropriate. Inappropriate use may result in disciplinary action and/or legal action in accordance with the law and Board policy. Please refer to the policy regarding electronic devices in the Student Handbook: **https://www.cusd80.com/Page/15353**

Diversity: All individuals have a right to an educational environment free from bias, prejudice and bigotry. As members of the Hamilton High School educational community, students are expected to refrain from participating in acts of harassment that are designed to demean another student's race, gender, ethnicity, religious preference, disability or sexual orientation.

Questions:

I am here for your success! If you ever have a question on an assignment or are having difficulties in class, please see me or email me. I want you to be successful and I am more than happy to do what I can to help you get to that point. Please contact me regarding any questions over the policies.