

Computer Science 3

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<p>Course Description: Computer Science III will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Computer Science III provides students with an in-depth look at advanced topics in computing. Area that may be covered SQL(Structured Query Language), AWS(Amazon Web Services), Computer Networks, dynamic data structures, Algorithm efficiency, digital logic, and advanced recursion.</p> <p>Course Outline:</p> <ul style="list-style-type: none"> • Part A will expand the student understanding of advanced data structures. Data Structure in java is defined as the collection of data pieces that offers an effective means of storing and organizing data in a computer. Examples: Array, Linked List, Stack, Queue, Binary, Binary Search Tree, Heap, and Hashing. To help the student pick the best structure they will learn about Big O notation. • Part B will introduce the language of relational databases: Structured Query Language (SQL). Topics covered include Entity-Relationship modeling, the Relational Model, the SQL language: data retrieval statements, data manipulation and data definition statements SQL • Part C will study computer networks. • Part D will provide insight into AWS cloud computing. Cloud computing is the on-demand delivery of IT resources over the Internet with pay-as-you-go pricing. Instead of buying, owning, and maintaining physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on an as-needed basis from a cloud provider like Amazon Web Services (AWS). 		
<p>Late Work Guidelines -10 points off each day late Active participation and group collaboration Will be evaluated and given a grade. Tutorials: Usually 6:15 am till the start of school every morning.</p>	<p>Re-teach/Re-test Procedure Review material and test corrections, Re-take test within 5 days, Replacement grade may not exceed 70, Re-test policy does not apply to major projects. The Klein Collins HS Grade Repair Policy does not apply to this course</p>	<p>Textbook <i>Blown to Bits: Your Life, Liberty, and Happiness after the Digital Explosion</i> 1st Edition by Hal Abelson (Author), Ken Ledeen (Author), Harry Lewis (Author) – Free online</p>
<p>Major online resources used: Khan Academy https://www.khanacademy.org/ W3School https://www.w3schools.com/ Code.org: Learn today, build a brighter tomorrow. https://code.org/ Amazon Future Engineer- Project STEM program https://projectstem.org/users/sign_in</p>	<p>Student Absence Procedures One day to make up work for each day absent Grades: 9-12 .5 Credit</p> <hr/> <p>Grade replacement: I offer grade replacement for an assignment. If a student competes on my Computer Science UIL team. I will replace a minor or major grade with a 100. Minor grade replacement for any ranking in the contest. Major grades replacement will happen if the student makes a grade of 75 or more on the UIL test (Perfect score 240). No limit to the number of contests you can attend. Replacement grade must be used in the current grading period.</p>	