PROGRAMMING/SOFTWARE DEVELOPMENT *Full Year*

Information Technology

Instructor: Cody Henrichsen cody.henrichsen@canyonsdistrict.org 801-826-6651

PROGRAM DESCRIPTION: This program is a college-level exploration of computer science concepts. These concepts include data representation/abstraction, recursion, software engineering, sorting/searching, and object oriented programming. Student's problem-solving skills will be developed through designing, implementing, and executing computer programs. First semester CS1400 works with the Python programming language to explore the basics of computer science. The Java programming language will be used for the second semester during A days for CS 1410. Java will be used to cover Object Oriented programming and data structures. Students will work with desktop, mobile and database development. Students will be prepared to take the AP Computer Science Principles and AP Computer Science A exams. They will have opportunities to participate in programming competitions against other schools and gain marketable skills before they graduate high school.

High School Credit: CTE credit or elective credit: Up to 4 credits total. One credit may be substituted to a science credit upon request.
Concurrent Enrollment: 12 college credits required. Student is responsible to register and pay for concurrent enrollment classes at SLCC and Weber State University. For more information on these classes, see Appendix.
AP Credit: AP Computer Science tests available
Additional Information: Compete in programming competitions
Industry Certifications: Pearson IT Specialist Certifications
Skills Certifications: Utah State Skill Certificate Test(s)
Requirements: Secondary Math II completed. All 2nd semester classes require passing the 1st semester (College requirement). Keyboarding and basic computer skills.

COURSE DESCRIPTIONS:

CSIS 1400 Fundamentals of Programming: Students will learn the basics of programming including data types, control structures, and functions using Python.

AP Computer Science Principles: Students will use the Swift programming language to develop iOS applications to learn about computer science and software development principles and address real world topics.

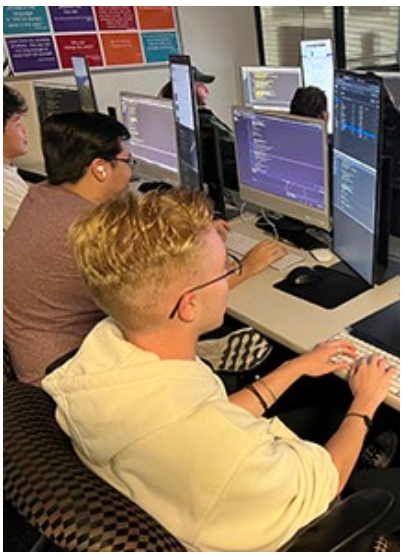
CSIS 1410 Object Programming: Students will create more complex GUI applications including a game using Java. Build more complex applications that involve data structures and prepare for the AP Computer Science A Exam.

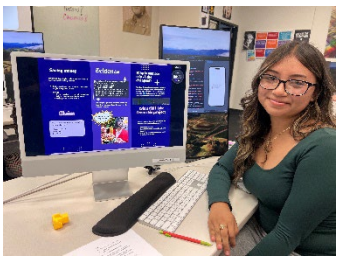
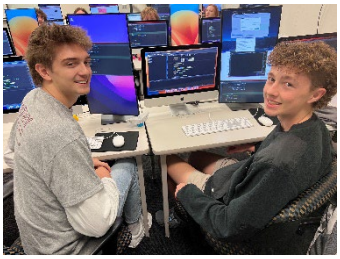
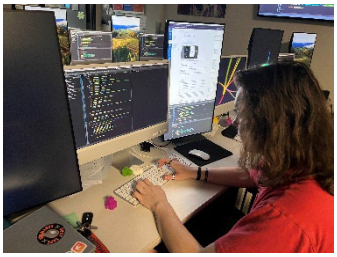
CS 2550 Database Design: Students will design and implement databases using SQL. Students will solve database problems using simple and complex queries on datasets.

Costs/Fees for the 2025-2026 school year: Pending school board approval.

Career Possibilities:

Computer Programmer
Game Developer
Software Engineer
Computer Engineer
Software Developer
Database Developer
Database Administrator



"I really enjoyed the programming class at CTEC because of the fun projects, and the great instruction. It is a lot of hands-on learning, which makes concepts easier to understand. My favorite project that we did was programming Lego robots in Java". L. Wyness

"I absolutely loved my time at CTEC! Being able to take higher-level classes for computer science helped me realize my interest could actually become a viable career. The hands-on projects, certifications, and college credit were an invaluable preparation for my future internships, scholarships, and college applications. And not to mention the staff! My professor was an amazing mentor that was constantly seeking opportunities for us to continue our development. His support and connections were a great aid and I would not be where I am today without the experiences I had at CTEC!" M. Madariaga