PROGRAMMING/SOFTWARE DEVELOPMENT *Full Year*
Information Technology Education

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PROGRAM DESCRIPTION: This course is a college level introduction to 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. The Java programming language will be used for the majority of the class. 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.

```
public void takeComputerScience()
{
    //Code
    //the
    //future
    //@CTEC

    designAndDevelopSoftware();
    createAndroidAndAppleApps();
    learnToHack();
    buildDatabases();
    beAmazing();
}
```

High School Credit: CTE credit or elective credit: Up to 4 credits total and a possible math or science credit
Concurrent Enrollment: 12 college credits <u>required</u>. 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: TBD
Skills Certifications: Utah State Skills Certificate Tests
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 using Java including GUI development.

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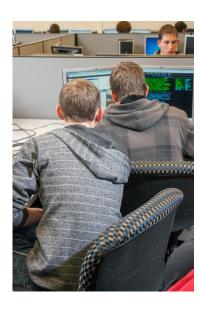
CSIS 1410 Object Programming: Students will create more complex GUI applications including a game using Java. Build more complex applications that involve data structures and prepare for the AP Computer Science A Exam.

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 2022-2023 school year: Pending school board approval.

Career Possibilities:

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

"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