



# Springville High School

*"Dedicated to Excellence, United in Service,  
Educated for Success."*



## DISCLOSURE DOCUMENT & SYLLABUS

<http://www.uvu.edu/concurrent>

### Object Oriented Programming

CS 1410, CRN #26905 (registration deadline: Sept 4)

CS 1400 (register in Spring)

**Computer Programming 2 CE (C# & C++)**  
(year-long course)

Instructor Name: Mrs. Carey S. White

Room: I-2217

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### COURSE DESCRIPTION

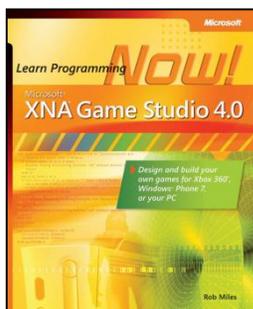
This is a Concurrent Enrollment Course, offering both high school credit through Springville High School and college credit through Utah Valley University. CP2 is a full-year, advanced course in computer programming and application development which reviews and builds on the concepts introduced in CPI. CP2 introduces students to dynamic allocation of data, to creation and utilization of classes, to advanced GUI techniques, and to advanced applications of recursion. Students will learn to design, code, and test their own programs. As a course supplement, students will learn to change and create PC and Xbox Games using C# and Microsoft's XNA Game Studio

### COURSE PREREQUISITES & CO-REQUISITES

Suggested prerequisites include keyboarding proficiency, Computer Technology, Computer Programming 1, and completion of/or currently enrolled in Algebra I.

### SOFTWARE

1. Microsoft Visual C# & C++ 2012 Express Edition (free download)  
<https://www.microsoft.com/en-gb/download/details.aspx?id=34673>
2. Microsoft XNA Game Studio 4.0, Xbox C# Programming (free download)  
<http://www.microsoft.com/en-us/download/details.aspx?id=23714>



### COURSE OBJECTIVES & LEARNING OUTCOMES

**Upon successful completion, students should be able to:**

1. Develop advanced applications using input, calculations, output, IF structures, iteration, sub-programs, recursion, arrays, sorting and a database.
2. Develop advanced application projects.

3. Develop advanced applications using object-oriented programming.
4. Demonstrate the ability to search data structures using binary and hash searches comparing the efficiency between sequential and binary searches.
5. Demonstrate the ability to sort data structures using quadratic ( $n^2$ ) and binary ( $n \log n$ ) sorts comparing the efficiency between various sorts using BigO notation.
6. Demonstrate the ability to use random access files in a program.
7. Demonstrate the ability to use linked lists, stacks, queues and binary trees.
8. Create user-defined inherited classes demonstrating overloading techniques.
9. Create an individual program of significant complexity and size (300-500 lines).
10. Compile a portfolio of the individual and group programs developed during the course.
11. Participate in a work-based learning experience such as a job shadow, internship, field trip to a software engineering firm or listened to an industry guest speaker and/or competed in a high school programming contest.

### REQUIRED STUDENT SUPPLIES

USB Flash/Jump Drive (any size)

#### GRADES

Grade scale and breakdown:

- 60%--In-class Assignments & Programs
- 30%--Exams and Quizzes
- 10%--Attendance & Participation

A = 94%	C = 74-76%
A- = 90-93%	C- = 70-73%
B+ = 87-89%	D+ = 67-69%
B = 84-86%	D = 64-66%
B- = 80-83%	D- = 60-63%
C+ = 77-79%	F = 0-59%

#### NOTICE:

Your grade for this class will become part of your permanent college transcript and will affect your GPA. A low grade in this course can affect college acceptance and scholarship eligibility

#### EXPECTATIONS:

STUDENTS ARE EXPECTED TO FOLLOW THE COMPUTER USE AGREEMENT FULLY. VIOLATIONS WILL RESULT IN STUDENT WARNINGS, PARENT INVOLVEMENT, AND/OR ADMINISTRATOR ACTION.

**At the conclusion of this course, all students will be required to take the Utah State Competency Exam in Computer Programming 2.**

#### DROPPING THE CLASS

\_\_ Oct 23\_ is the last day to drop the course without it showing on your transcript.

\_\_ Oct 23\_ is the last day to withdraw from the class

If you drop the high school class, you must also withdraw from the UVU class to avoid receiving an E or UW (unofficial withdrawal).

#### STUDENT/PARENT SIGNATURES

We, the undersigned, have read and understand the terms of this Computer Programming 2 course disclosure document.

STUDENT NAME (PRINT PLEASE) \_\_\_\_\_

STUDENT SIGNATURE \_\_\_\_\_

PARENT SIGNATURE \_\_\_\_\_

**ATTENTION STUDENTS WITH DISABILITIES:** If you have any disability, which may impair your ability to successfully complete this course, please contact the Accessibility Services office, 863-8747, BU 146. Academic accommodations are granted for all students who have qualified documented disabilities. All services are coordinated with the Accessibility Services office.