CHINO VALLEY UNIFIED SCHOOL DISTRICT
INSTRUCTIONAL GUIDELINES
COMPUTER PROGRAMMING 2

Course Number	5E03
Department	Technology
Prerequisite	Computer Programming Basics
Length of Course	Two (2) semesters/One (1) year
Grade Level	10-12
Credit	5 units per semester/10 total units – elective
Repeatable	Not repeatable for credit
UC/CSU	Meets the "g" elective requirement
Board Approved	May 24, 2012

Description of Course – Computer Programming 2 will provide the study of BASIC to include programming methodology. This course will enable students to identify features of programming language; work with data structures and algorithms, and write simple programs using C++, Visual Basic, Java, and HTML5.

Rationale for Course – In order to be able to compete in a technology-based global economy students will need to adapt and innovate utilizing the latest in technological resources. It is imperative that students be able to program the computer languages of today to create the innovations of tomorrow. Those that can successfully adapt will ensure that our nation, state, and region remain globally competitive and technologically innovative.

Standard 1 – Understand the creation and design of a software program.

1.1 Objective: Use all library and utility commands.

1.1.1 Performance Indicator: Student will know and use library and utility system commands.

1.2 Objective: Prepare data files for I/O reading and writing to files.

1.2.1 Performance Indicator: Student will understand and be able to create sequential data files.

1.2.2 Performance Indicator: Student will understand and be able to create random data files.

1.2.3 Performance Indicator: Student will understand and be able to create a data spreadsheet.

1.2.4 Performance Indicator: Student will understand and create a data base.

1.2.5 Performance Indicator: Student will conduct a Bubble sort and a Shell-Metzner sort of given data.

1.2.6 Performance Indicator: Student will understand the use of approximation and statistical methods to a given data set.

1.3 Objective: Create and service a file on removable media.

1.3.1 Performance Indicator: Student will use system commands in assembly language.

1.3.2 Performance Indicator: Student will understand and use simple program structure in assembly language.

Standard 2 – Understand the process of testing and debugging programs to meet specifications.

2.1 Objective: Test and debug programs in various programming languages.

2.1.1 Performance Indicator: Students will test and debug BASIC programs that they create.

2.1.2 Performance Indicator: Student will test and debug assembly language programs.

Standard 3 – Understand programming languages.

3.1 Objective: Understand programming languages through exposure to: C++, Visual Basic, Java, and HTML5.

3.1.1 Performance Indicator: Student will be able to identify the programming languages of C++, Visual Basic, Java, and HTML5.

3.1.2 Performance Indicator: Student will explain the advantages and disadvantages of other languages (C++, Visual Basic, Java, and HTML5.)

3.1.3 Performance Indicator: Student will identify various languages and name the fields in which they are used.

Standard 4 – Understand the importance of quality assurance tasks in producing effective and efficient products.

4.1 Objective: Students will know the standards and requirements for software quality assurance.

4.1.1 Performance Indicator: Student will identify the quality assurance standards and requirements for software.

4.1.2 Performance Indicator: Student will be able to perform common quality assurance tasks.

4.1.3 Performance Indicator: Student will identify characteristics of reliable, effective, and efficient products.

Standard 5 – Understand the importance of effective interfaces in the interaction between humans and computer systems.

5.1 Objective: Support access, privacy, and high ethical standards in computing.

5.1.1 Performance Indicator: Student will understand the use of file access statements and functions.

5.1.2 Performance Indicator: Students will understand the use of methods to limit access and protect privacy.