



**TRINITY VALLEY COMMUNITY COLLEGE
ADMINISTRATIVE-MASTER SYLLABUS**

The Administrative- Master Syllabus is an administrative tool; it is **not intended to be distributed to students**. It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of TVCC, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction. The Administrative-Master Syllabus will demonstrate that there is consistency and comparability in course offerings.

Course Title

Programming Fundamentals II

Course Prefix and Number

COSC 1337

Department – Division

Computer Science

Course Type – select from one of the following categories.

- **Academic General Education Course** (from ACGM – but not in TVCC Core)
- **Academic TVCC Core Course**
- **WECM Courses**

Semester Credit Hours: Lecture Hours: Lab/other hours

Semester Credit Hours	Lecture Hours	Lab/Other* Hours
3	2	4

Other hours include practicum, clinical or other types of non-lecture instruction. *If other, please specify: _____

Course Catalog Description

Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering.

Prerequisites/co requisites

COSC 1336 and COSC 1309 or approval of instructor

Topical Outline

Upon successful completion of this course, the student should obtain further object-oriented programming skills. The student should be able to write, test, and debug intermediate skills level programs in an object-oriented language such as Visual Basic.

Course Learning Outcomes

The student will have knowledge of the following:

1. Sub and Function procedures
 - a. The difference between a Function and a procedure
 - b. Passing information to an independent sub procedure
 - c. Passing variables
 - i. Passing by value
 - ii. Passing by reference
2. Combo boxes
3. String Manipulation
 - a. The Remove method
 - b. The Mid statement
 - c. The Insert method
 - d. The Contains method
 - e. The IndexOf method
 - f. The SubString method
 - g. The String.Compare method
 - h. The Length property
 - i. The Trim method
 - j. The TrimStart method
 - k. The Replace method
 - l. The PadLeft method
 - m. The PadRight Method

Course Learning Outcomes Continued:

- n. The Insert method
- o. The StartsWith method
- p. The EndsWith method
- q. The Like operator
- 4. Creating menus
 - a. Assigning shortcut keys to menu items
- 5. Arrays
 - a. Understand the difference between a one and two-dimensional array
 - b. Storing data in a one-dimensional array
 - c. Using a one-dimensional array
 - d. Manipulating one-dimensional arrays
 - i. Displaying the contents
 - ii. The For Each....Next statement
 - iii. Using the subscript to access an element of a one-dimensional array
 - iv. Updating the values stored in a one-dimensional array
 - v. Sorting a one-dimensional array
 - e. Parallel one-dimensional arrays
- 6. Two-dimensional arrays
 - a. Storing data in a two-dimensional array
 - b. Using two-dimensional arrays
 - c. Searching a two-dimensional array
 - d. The GetUpperBound method
 - e. The GetLowerBound method
- 7. Creating a structure
 - a. Using a structure to declare a variable
 - b. Passing a structure variable to a procedure
- 8. Sequential access files
 - a. File types
 - b. Using sequential access files
 - i. Writing information to a sequential access file
 - ii. Aligning columns of information in a sequential access file
 - iii. Reading information from a sequential access file
 - iv. Determining whether a file exists
- 9. Classes and objects
 - a. Defining a class
 - b. Using classes and objects
 - c. Using a class that contains Public
 - d. Using a class that contains a Private

Course Learning Outcomes Continued:

- e. Constructors
 - f. Methods other than constructors
 - g. Using a class that contains a ReadOnly property
 - h. Using a class that contains two constructors
 - i. Using a class that contains overloaded methods
 - j. Using a base class and a derived class
10. Using ADO.Net
- a. Database terminology
 - b. Connecting an application to a database
 - c. Binding objects in a dataset
 - i. Having the computer create a bound control
 - ii. The Copy to Output directory property
 - iii. Binding an existing control
 - iv. Accessing the records in a dataset
 - d. Creating queries
 - i. Structured query language
 - 1. Creating a new query
 - 2. Allowing the user to run a query

Relationship to General Education Outcomes – In addition to the core competencies, Trinity Valley Community College has established ten general education goals which specify knowledge and skills that students should gain from completing courses in the various component areas of the core curriculum. Information regarding curriculum and assessment as a means for the improvement of student learning through the general education component. (Select all that apply.)

Mark with an "X"	General Education Outcome
	A. To communicate clearly and effectively in both oral and written English.
	B. To improve reading skills focused on comprehending, analyzing, interpreting, and evaluating printed materials.
	C. To understand mathematical information and utilize mathematical skills.
	D. To demonstrate qualitative and quantitative critical thinking skills.
	E. To understand and appreciate cultural and ethnic diversity.
X	F. To utilize computer based technology in accessing information, solving problems, and communicating.
	G. To recognize and evaluate artistic achievements in the visual and performing arts.
	H. To improve basic understanding of political, economic, and social systems.
	I. To demonstrate knowledge of the physical universe and living systems.
	J. To develop skills and strategies to become an engaged learner.

Required Text(s)

The current edition of the textbook from the bookstore.

Optional Text(s)

None

Material/Technology to be supplied by the student.

If the student is taking this course as an Internet course, then the student is responsible for having access to the Internet.

The student will need a flash drive to use as a storage media.

If the student is taking this class face to face, they will also need a notebook, pen or pencil for taking notes, and 100 answer scantrons for quiz taking.

Course Requirements/Grading System – describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course; not intended to restrict the individual nature by which each faculty member who teaches the course determines course requirements and final student performance, but should offer consistency within reason for all sections taught for those departments without a standardized format.

The student's grade will be determined by performance on quizzes, laboratory assignments and a final. The class instructor prepares the individual grade criteria with respect to the departmental syllabus.

Approvals – the contents of this document have been reviewed and are found to be accurate.

Prepared by	Signature	Date
Department Head	Signature	Date
Division Chair	Signature	Date
Vice President	Signature	Date