



**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**

C++ Programming

**Course Prefix and Number**

COSC2320

**Department – Division**

Business and 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	3	0

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

### **Course Catalog Description**

An advanced course in C ++ programming using the object-oriented approach to programming through the use of the C++ programming language. Include an emphasis on code reusability through the use of library functions for I/O, flow control and string manipulation. Topics include encapsulation, inheritance, and polymorphism.

### **Prerequisites/co requisites**

Prerequisites: COSC 1336 Programming Fundamentals 1 or GAME 1303 Introduction to Game Design and Development or ITSC 1329 Programming Logic or consent of instructor.

### **Topical Outline**

Programming First Steps, compilation, execution  
Identifiers, variables and constants  
Input and Output  
C++ Operators  
Blocks and Variable Scope  
C++ Flow Control  
Function Fundamentals  
Programmer Defined Functions  
Parameters  
Structured Programming fundamentals  
Single Dimension Arrays  
Searches and sorts  
Multidimensional Arrays  
Array Parameters  
Recursion  
Data structures  
Pointers  
Object Oriented Programming Fundamentals  
Encapsulation  
Abstraction  
Inheritance  
Polymorphism

### **Course Learning Outcomes**

At the conclusion of the course, the student should be conversant in both Structured programming fundamentals and object oriented programming concepts. In addition, the successful student should be able to design and develop a moderately difficult problem using the C++ programming language.

**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.
x	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)**

Learn C++ by Making Games by Erik Yuzwa and Francois Domminic Laramee; Charles River Media, Boson, Massachusetts; 2007, ISBN 1-58450-455-2

**Optional Text(s)**

None

**Material/Technology to be supplied by the student.**

USB storage device with at least 128 MB.

**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.

This course is very project based. There are 8 mini-projects and one term project.

***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