

HUDSON VALLEY COMMUNITY COLLEGE  
TROY, NEW YORK

COURSE OUTLINE

**COURSE TITLE:** C# Programming

**COURSE SUBJECT AND NUMBER:** CISS 233

**DEPARTMENT:** Computing and Information Sciences

**CREDIT HOURS:** 4

**CONTACT HOURS:** 4 Lecture

**SEMESTER COURSE IS OFFERED:**  Fall  Spring  Summer

**OFFERED DISTANCE LEARNING:**  Yes

**PREREQUISITES (list):**  Yes  No  
CISS 111 – Programming & Logic II Data Structures or Permission of Department Chair

**COREQUISITES (list):**  Yes  No

**PREREQUISITE(S) OR COREQUISITE(S):**  Yes  No

**TEXT (S) :**

**C# Programming: From Problem Analysis to Program Design, 5th Edition**  
**Barbara Doyle**  
**ISBN-13: 978128096339**  
**1088 Pages Paperback**

**LAB FEES:** None

**FINAL EXAM:** None

**ORIGINAL SUBMISSION DATE:** Fall 2010

**CURRICULUM COMMITTEE APPROVED REVISION DATE:**

**PREPARED BY:** James G. Looby

**COURSE DESCRIPTION:** This course is an introduction to the C# programming language and the .NET framework the Microsoft Visual Studio.Net or an equivalent Integrated Development Environment (IDE). Students will be provided with the essential foundation necessary to design and develop robust and secure .Net applications using C#, Windows forms, and the .NET framework. This course will cover the following topics: classes, objects, multi-threading, the .NET framework, ADO.NET, ASP.NET, XML and Web services.

## ACTIVITIES AND ASSIGNMENTS:

- Visual Studio.Net Environment
- C# Object Oriented Design
  - Classes and Objects
  - Exception Handling
  - Security
  - Inheritance
  - Encapsulation
  - Polymorphism
- .Net framework including
  - Multimedia
  - Networked Applications
  - Database Applications
  - ADO.NET
  - ASP.NET
- Web Services and XML

**GRADE COMPUTATION:** (In general terms as defined by college policy. Specifics, including Z grade, will be defined on the instructor's syllabus).

- Computer Programs, Assignments, Homework, In-Class Work, and Class Participation 60%
- Tests, Quizzes 40%

**ADA COMPLIANCE:** In compliance with the Americans with Disabilities Act of 1990 and with Section 504 of the Rehabilitation Act, Hudson Valley Community College is committed to ensuring educational access and accommodations for all its registered students, in order to fully participate in programs and course activities or to meet course requirements. Hudson Valley Community College's students with documented disabilities and medical conditions are encouraged to access these services by registering with the Center for Access and Assistive Technology to discuss their particular needs for accommodations. For information or an appointment contact the Center for Access and Assistive Technology, located in room 130 of the Siek Campus Center or call 518-629-7154/TDD: 518-629-7596 .

## STUDENT BEHAVIORAL OBJECTIVES:

Students will be able to:

- Demonstrate and explain the use of the C# programming language and .Net environment to plan, design, develop and debug complex Web accessible Information Systems.

- Apply proven Object Oriented Design (OOD) principles and “Best Practices to solve in-depth programming problems in C# and the .Net environment. Students will demonstrate these principles and practices through programming assignments and assessments that include the following:
  - Classes and Objects
  - Inheritance
  - Encapsulation
  - Polymorphism
  - Graphical User Interface (GUI) design and usability.
  - Robust Exception Handling
  - Open Database Connectivity (ODBC)
  - Multithreading Programming and Synchronization.
  - Object Serialization and Marshalling.
  - Advanced Multimedia

**SEMESTER OUTLINE:** (course content)

Module1	Introduction to .NET
Module 2	C# Application Basics: Command line and VS.NET compilation.
Module 3	C# and Structured Programming OOD Fundamentals:
Module 4	OOP in C#: Encapsulation, inheritance, polymorphism,
Module 5	Exceptions and Object Lifetime: exceptions and the garbage collector.
Module 6	Interfaces and collections
Module 7	Callback Interfaces, Delegates, and Events: basics of each -- very important for event driven (GUI) programming
Module 8	Advanced C# Type Construction: Indexers, operator overload, conversions
Module9	.NET Assemblies: basic overview
Module 10	Windows Forms: Basic windows programming: forms, component class, control class, control events, menus, status bars, tool bars, interacting with the registry
Module 11	Drawing in Windows (GDI+): Paint sessions, the Graphics class, coordinate systems, color, fonts, hit testing.
Module 12	Input, Output, and Serialization: System.IO, Directory and File Types, StreamReaders and StreamWriters, working with binary data, configuring objects for serialization
Module 13	Object Serialization: basics
Module 14	C# 2008 features: Automatic properties, extension methods, partial methods, object initializers
Module 15	Processes, AppDomains, Contexts, Threading, Type Reflection, Late Binding, Attribute-based programming: Advanced topics from the text will be discussed as time permits.

Benefits for Veterans:

<https://www.hvcc.edu/veterans/>