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# Middlesex County College

**Edison, NJ 08818**

**COURSE ID:** Computer Science and Information Technology Department - CSC 266

# COURSE NAME: C#.NET Programming

### NUMBER OF CREDITS AWARDED FOR COURSE: 4 credits

**PREREQUISITE OR COREQUISITE COURSES OR ACADEMIC STANDING:**

Prerequisite(s): CSC161 and CSC239 or equivalent

### NEW OR MODIFIED COURSE: New

# SEMESTER AND YEAR COURSE WILL FIRST BE OFFERED: Fall 2012

#### NAME AND TELEPHONE NUMBER OR EMAIL ADDRESS OF DEPARTMENT CHAIR:

Chairperson or Course Coordinator: Dr. Peter Farrett

Office Location: JLC201

E-mail Address: PFarrett@Middlesexcc.edu

Telephone: 732-906-2526

**DETAILED COURSE DESCRIPTION:**

This course presents an introduction to programming and problem solving using C#.NET and the Microsoft Visual Studio development environment. Algorithm development and basic procedural and object-oriented problem solving techniques are introduced. Fundamental topics of computer programming including sequence, selection, repetition, input/output, methods, parameter passing, scope, lifetime and arrays are discussed in detail. Basic concepts of object-oriented programming such as objects, classes and class methods are introduced. This course is not designed for transfer.

# OUTLINE OF COURSE OBJECTIVES:

1. Describe the purpose of the .NET Framework.
2. Recognize the syntax of basic C# programming constructs.
3. Create and call methods in a C# application.
4. Perform basic file I/O operations in a C# application.
5. Create and use enumerations, classes, and structures.
6. Understand the differences between reference types and value types.
7. Control the visibility and lifetime of members in a type.
8. Demonstrate how to use C# and Microsoft Visual Studio to build .NET Framework applications.

**TEXTS, JOURNALS, AND OTHER MATERIALS USED IN COURSE:**

Doyle, Barbara. C# Programming 3E, From Problem Analysis to Program Design. Boston: Course Technology, Cengage Learning, 2011.

ISBN: 978-0-538-45302-8

## SUGGESTED GRADING CRITERIA:

3 Examinations 30%

Final Examination 20%

Lab Assignments 25%

Quizzes 10%

Homework 15%

100%

**SCHEDULE OF TOPICS TO BE COVERED:**

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| **1.** Introducing C# and the .NET Framework |
| Introduction to the .NET Framework  Creating Projects Within Visual Studio 2010  Writing a C# Application  Building a Graphical Application  Documenting an Application  Running and Debugging Applications using Visual Studio 2010 |
| **2.** Using C# Programming Constructs |
| Declaring Variables and Assigning Values  Using Expressions and Operators  Creating and Using Arrays  Using Decision Statements  Using Iteration Statements |
| **3.** Declaring and Calling Methods |
| Defining and Invoking Methods  Specifying Optional Parameters and Output Parameters |
| **4.** Reading and Writing Files |
| Accessing the File System  Reading and Writing Files using Streams |
| **5.** Creating New Types |
| Creating and Using Enumerations  Creating and Using Classes  Creating and Using Structs  Comparing Reference types to Value types |
| **6.** Encapsulating Data and Methods |
| Controlling Visibility of Type Members  Sharing Methods and Data |

**Course Abstract**

**Course ID and Name:** CSC 266 – C#.NET Programming

**Department:** Computer Science and Information Technology

Chairperson or Course Coordinator: Dr. Peter Farrett

Office Location: JLC201

E-mail Address: PFarrett@Middlesexcc.edu

Telephone: 732-906-2526

**Prerequisites:** CSC161 and CSC239 or equivalent **Co-requisites:** None

**Course Description:** This course presents an introduction to programming and problem solving using C#.NET and the Microsoft Visual Studio development environment. Algorithm development and basic procedural and object-oriented problem solving techniques are introduced. Fundamental topics of computer programming including sequence, selection, repetition, input/output, methods, parameter passing, scope, lifetime and arrays are discussed in detail. Basic concepts of object-oriented programming such as objects, classes and class methods are introduced. This course is not designed for transfer.

**General Education Status:** No

**Credits:** 4 **Lecture Hours:** 2  **Lab Hours:** 4

**Learning Outcomes:**

1. Recognize the syntax of basic C# programming constructs.

2. Create and call methods in a C# application.

3. Perform basic file I/O operations in a C# application.

4. Create and use enumerations, classes, and structures.

5. Understand the differences between reference types and value types.

6. Control the visibility and lifetime of members in a type.

**Course Content Areas:**

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| --- |
| 1. Introducing C# and the .NET Framework |
| Introduction to the .NET Framework  Creating Projects Within Visual Studio 2010  Writing a C# Application  Building a Graphical Application  Documenting an Application  Running and Debugging Applications using Visual Studio 2010 |
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