Prepared: Bazlur Rasheed Approved: Corey Meunier

Course Code: Title	CSD207: INTRO TO C# & .NET DESKTOP APPLICATIONS
Program Number: Name	2090: COMPUTER PROGRAMMER
Department:	COMPUTER STUDIES
Semester/Term:	17F
Course Description:	This course introduces the student to the C# programming language and the .NET framework. Students will design, develop, test and debug applications demonstrating practical knowledge of C# language constructs and the .NET framework and libraries. Desktop applications including Windows Forms and console based applications will be written in the Visual Studio Integrated Development environment. Students will write applications that build on concepts and language constructs developed in this and other courses including structured programming techniques, basic language syntax, data types, file I/O, variable scope, arrays, collection classes, references, sequence, selection, repetition and object oriented programming techniques such as encapsulation, inheritance, polymorphism and UML syntax. This is a lab oriented course with emphasis on practical hands on exercises. Students will be introduced to and gain practical knowledge in the use of git, git clients and cloud based repositories.
Total Credits:	4
Hours/Week:	4
Total Hours:	60
Vocational Learning Outcomes (VLO's): **Please refer to program web page for a complete listing of program outcomes where applicable.**	#1. Use documented solutions to troubleshoot problems associated with software installation and customization. #2. Develop, test, document, deploy, and maintain secure program code based on specifications.
Essential Employability Skills (EES):	#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. #2. Respond to written, spoken, or visual messages in a manner that ensures effective communication. #3. Execute mathematical operations accurately. #4. Apply a systematic approach to solve problems.

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	#5. Use a variety of thinking skills to anticipate and solve problems. #6. Locate, select, organize, and document information using appropriate technology and information systems. #7. Analyze, evaluate, and apply relevant information from a variety of sources. #8. Show respect for the diverse opinions, values, belief systems, and contributions of others. #9. Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. #10. Manage the use of time and other resources to complete projects. #11. Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	To successfully pass this course, the student must receive passing grades for both the Test and Evaluation portion of the class and the Laboratory portion. Grade Definition Grade Point Equivalent A+ 90 – 100% 4.00 A 80 – 89% B 70 - 79% 3.00 C 60 - 69% 2.00 D 50 – 59% 1.00 F (Fail) 49% and below 0.00 CR (Credit) Credit for diploma requirements has been awarded. S Satisfactory achievement in field /clinical placement or non-graded subject area. U Unsatisfactory achievement in field/clinical placement or non-graded subject area. X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. NR Grade not reported to Registrar`s office. W Student has withdrawn from the course without academic penalty.
Evaluation Process and Grading System:	
Books and Required	Beginning C# 6 Programming with Visual Studio 2015 by Benjamin Perkins, Jacob Vibe

Evaluation Type	Evaluation Weight
Lab Assignments	30%
Lecture Assignments and Attendance	10%
Quizzes	10%
Theory and Lab Tests	50%

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Resources:	Hammer and Jon D. Reid Publisher: John Wiley & Sons, Inc., Wrox a Wiley Brand. ISBN: 978-1-119-09668-9
Course Outcomes and Learning Objectives:	**Course Outcome 1.** Introduction to Visual C# and .NET Framework **Learning Objectives 1.** • What is C#? • What is the .NET Framework? **Course Outcome 2.** Introduction to Visual Studio and Visual Programming **Learning Objectives 2.** • The Visual Studio 2017 Integrated Development Environment • Navigating the Visual Studio IDE • Create a simple application (Command Line Programming) • Create a simple application (Visual Programming) **Course Outcome 3.** Introduction to C# Console and Windows Application Programming **Learning Objectives 3.** • Console Applications • Desktop Applications • Web Applications

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Course Outcome 4.

Variables and Expressions

Learning Objectives 4.

- Basic C# Syntax
- Basic C# Console Application Structure
- Variables
- Expressions

Course Outcome 5.

Flow Control

Learning Objectives 5.

- Boolean Logic
- Branching
- Looping

Course Outcome 6.

More about Variables

Learning Objectives 6.

- Type Conversion
- Complex Variable Types
- String Manipulation

Course Outcome 7.

Functions

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Learning Objectives 7.

- Defining and Using Functions
- Variable Scope
- The Main() Function
- Struct Functions
- Overloading Functions

Course Outcome 8.

Debugging and Error Handling

Learning Objectives 8.

- Debugging in Visual Studio
- Error Handling

Course Outcome 9.

Introduction to Object-Oriented Programming

Learning Objectives 9.

- What Is Object-Oriented Programming?
- OOP Techniques
- OOP in Desktop Applications
- Defining Classes
- Class Definitions in C#
- System.Object
- Constructors and Destructors
- OOP Tools in Visual Studio
- Class Library Projects
- Interfaces Versus Abstract Classes
- Struct Types
- Shallow Copying Versus Deep Copying

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Course Outcome 10.

Defining Class Members

Learning Objectives 10.

- Member Definitions
- Additional Class Member Topics
- Interface Implementation
- Partial Class Definitions
- Partial Method Definitions

Course Outcome 11.

Class Designer in Visual Studio using Unified Modeling Language (UML) Syntax

Learning Objectives 11.

- Understand the physical structure of the software objects and their relationships
- How to design UML class diagram
- Generate C# code using visual studio

Course Outcome 12.

Basic Desktop Programming

Learning Objectives 12.

- Windows Forms
- Windows Presentation Foundations (WPF)
- Events
- Controls (Forms, Labels, TextBox, buttons, etc.) Properties and Layout
- GroupBoxes and Panels
- Checkboxes and RadioButtons

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	• PictureBoxes **Course Outcome 13.** Advanced Desktop Programming **Learning Objectives 13.** • Menus • MonthCalendar control • DateTimePicker control **Course Outcome 14.** Git, Git clients and cloud based repositories **Learning Objectives 14.** • Git a version control system (VCS) • Git Basics • Git Clients • GitHub a Web-based Git
Date:	Friday, September 1, 2017
	Please refer to the course outline addendum on the Learning Management System for further information.