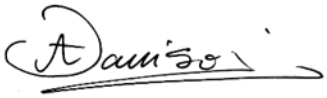
GEORGE BROWN COLLEGE | CENTRE FOR ARTS, DESIGN & INFORMATION TECHNOLOGY | School of Computer Technology

Approved by Chair:



Dec 24, 2023

Signature

COMP1202 Object-Oriented Programming

Course Description

This course provides a detailed overview of the C# language, its syntax, and its implementation of object-oriented concepts. It also introduces the .NET Framework, which is a Microsoft platform for building all types of applications from high-performance Web sites to rich Windows clients. Students will learn how to use .NET to build simple Console applications, create custom classes, work with arrays, and apply basic programming structures such as decision making and repetition. Students will also learn the basics of file and exception handling.

Course Outcomes

At the end of this course, the student will reliably demonstrate the ability to:

1. Create Console Applications using C#.
2. Incorporate various Data types and expressions.
3. Utilize decision making structures.
4. Apply repetitive structures in the problem-solving process.
5. Implement methods and behaviors.
6. Create user-defined classes.
7. Write programs using object-oriented programming techniques
8. Implement and use arrays and collections to handle data.

LIST OF TEXTBOOKS AND OTHER TEACHING AIDS:

Required

- C# Programming: From Problem Analysis to Program Design, 5th Edition (Visual Studio 2015) by Barbara Doyle ISBN-10: 1-285-85687-2 ISBN-13: 978-1-285-85687-2

Recommended Resources

- Course material (including lectures and labs) will be available to the students on the D2L.

Course Delivery Mode

The course uses various instructional methods, such as lectures, demonstrations, hands-on exercises, and take-home assignments. The delivery mode depends on whether the course is online or in person. Online lectures will be the primary mode, but there may be in-person lectures for in-person participants. Labs will be conducted virtually for the online program, while in-person program students must attend on-campus labs. For more information about the delivery mode, please refer to D2L. Any updates will be communicated through D2L in advance.

Assignment Policy

- To receive full credit, students must submit their assignments on the due date specified by the professor. Late submissions will be penalized 20% per day, up to a maximum of five days (including weekends), unless the student has provided prior notification to the professor (via email, phone, or in person) of a valid reason for the delay.
- Submitting optional assignments after the due date will receive zero marks.

Test Policy

- Students must complete tests and the final exam on the assigned day. If unable to complete the test/exam as scheduled, students are required to notify the professor at least three days prior to the date, so alternative arrangements can be made. Failure to comply with this policy may result in a zero grade.
- Lab tests must be completed based on given instructions and must be completed during the lab hours. There will be no partial marks awarded for any of the lab tests if they are not complete.

EVALUATION SYSTEM:

The passing grade for this course is: D (50%)

Assessment Tool:	**Description:**	**Outcomes assessed:**	**EES**	**Date / Week:**	**% of Final Grade:**
Quiz (5 x 1.6% each)	Quizzes done with the QuizAtClass mobile tool in the Lecture. Students must be present to take the quiz. (No makeup quizzes.) The best 5 out of 7 quizzes will count.	1-6		Weeks 2 to 14	8
Lab Exercises (7 x 1% each)	Hands-On Lab work	1-6		Weekly	7
Lab Test 1	Hands-On test	1-3		Week 5	10
Lab Test 2	Hands-On test	3-5		Week 11	10
Assignment 1	Individual Assignment	1-3		Week 6	10
Assignment 2	Group Assignment	4-6		Week 13	10
Mid Term Exam	Multiple Choice questions week 1 to 6	1-3		Week 7	20
Final Exam	Multiple Choice questions week 1 to 14	1-6		Week 15	25
				TOTAL:	**100%**

Topical Outline

Learning Schedule / Topical Outline (subject to change with notification)

Week	Topic/ Task	Outcome(s)	Content / Activities	Resources
1	1 2	1, 2	● Software Development Process ● Programming Methodologies ● Types of Applications Developed in C# ● Elements of a C# Program ● Compiling, Building, and Running an Application ● Debugging an Application ● Creating an Application	Chapter 1
2	3	1, 2	Sequence Logic ● Data Representation ● Memory Locations for Data ● Types, Classes and Objects ● Predefined Data Types ● Assignment Statements ● Order of Operations ● Formatting Output	Chapter 2
3	4	1,2	Selection Logic ● Boolean Expressions ● Conditional Expressions ● If...else Selection Statements Switch Selection Statements ● Ternary Conditional Operator ? : ● Order of Operations ● Coding standards	Chapter 5
4	5	1, 2	Iteration and looping ● Using the While Statement ● Using the For Statement Loop ● Using the Do...While Structure ● Nested Loops ● Recursive Calls	Chapter 6
5	6	1, 2, 3	Functions/Methods ● Anatomy of a Method ● Calling Class Methods ● Predefined Methods ● Writing your own Class Methods ● Types of Parameters **LABTEST #1**	Chapter 3
6	7	1, 2,3,4	Intro to OOP ● Access Modifiers ● Creating Classes ● Class Members ● Constructors ● Instantiate an object ● Instance Methods ● Coding Standards **ASSIGNMENT #1 DUE**	Chapter 4
			MIDTERM EXAM	
8			***INTERSESSION WEEK***	

9	8	1,2,3,4	OOP continued ● Accessors, Mutators ● Properties ● Class Method Overloading ● Coding Standards	Chapter 4
10	9	1,2,4,5	Arrays ● Array declaration ● Array Access ● Array Class ● Arrays as Method Parameters ● Using The Foreach Statement Loop ● Arrays in Classes ● Array of User-Defined Objects ● Arrays as Return Types ● Guidelines for Naming Arrays	Chapter 7
11	10 11	1,2, 5	Advanced Collections ● Two-Dimensional Arrays ● Multidimensional Arrays ● String Class ● List<T> class (instead of ArrayList) ● Queue<T> class (instead of Queue) ● Stack<T> class (instead of Stack) **LABTEST #2**	Chapter 8 https://docs.microsoft.com/en-us/dotnet/api/system.collections.generic?view=netcore-3.1
12	12	1,5,6	File I/O ● File class ● Directory class ● Writing Text files ● Reading Text files	Chapter 13
13	13	1, 4, 6	● Binary Reader class ● Binary Writer class **ASSIGNMENT #2 DUE**	Chapter 13
14	14	1, 4, 9	Exception Handling ● Try…Catch…Finally Blocks ● Exception classes ● User-Defined Exceptions	Chapter 12
			FINAL EXAM	

For information on withdrawing from this course without academic penalty, please refer to the College Academic Calendar: http://www.georgebrown.ca/Admin/Registr/PSCal.aspx

Policy on Academic Dishonesty:
The *minimal* consequence for submitting a plagiarized, purchased, contracted, or in any manner inappropriately negotiated or falsified assignment, test, essay, project, or any evaluated material will be a grade of zero on that material.
To view George Brown College policies please go to www.georgebrown.ca/policies