# ITSE 1430 - Introduction to C# Programming

## Course Description

This class introduces the C# language including syntax and semantics, data types, control structures, functions, error handling and classes.

## Prerequisites

COSC 1436 is strongly recommended.

## Objectives

The student will develop a structured approach to solving problems using C#. The student will get practical experience buildings different types of applications in C# including Windows Forms, Windows Presentation Foundation and ASP.NET. Additionally the student will get basic experience working with databases and XML.

At the completion of the course, the student will:

1. Design and develop C# programs using structured programming techniques.
2. Have working experience using Windows Forms to create applications.
3. Have working experience using WPF to create applications.
4. Have working experience using ASP.NET to create applications.
5. Be able to use ADO.NET to work with databases in an application.
6. Be able to use LINQ to work with XML data in an application.

## Required Resources

[Microsoft Visual Studio 2017](https://visualstudio.microsoft.com/downloads/)

The free Community Edition is available from Microsoft.

[Visual C#: How to Program (6th Edition)](https://www.amazon.com/Visual-How-Program-6th-Deitel/dp/0134601548)

Author: Paul J Deitel, Harvey Deitel ISBN: 978-0134601540 *Note: The online access code IS NOT required.*

[Github](https://github.com)

Internet access is required to use GitHub. Setting up GitHub will be discussed in class.

## Course Instruction

This course is taught as a hybrid lecture/lab course. During the lecture/lab time students will be receiving some lecture and then hands-on labs to enforce the concepts. There is not a separate lab time. Students will be working on programming assignments outside of class for grading. When possible time in class will be made available to get assistance and work on assignments.

In addition to assignments done outside of class students will periodically take a quiz over the lecture material. The quiz will generally be given after covering a section of material. Quizes will be taken in class electronically and graded immediately.

Students are expected to read the chapter in the book before it is covered in class. After covering the material in class students are expected to review the chapter and answer the questions to reinforce the topics.

Help is available during lab and office hours. After class help will be provided only if scheduled in advance.

Mobile devices such as cell phones, tablets and notebooks should be silenced while in class. Devices may be used to take notes or view information related to the current class discussion. Any devices that disrupt class or interfere with our students’ ability to learn in class should be turned off or left outside class. If any such device is found during class then the student will be required to remove it from class.

## Attendance Policy

Attendance is taken at the beginning of class. Any student not in class when attendance is taken is considered absent. Attendance may be taken during the lab time as well. If taken and a student is not present then they will be marked absent from the lab portion of the course.

A student in an on-campus course missing a cumulative of 15% of the class meetings and “at risk” of failing the course may be dropped at the discretion of the instructor. An “at risk” student will receive communication from the instructor prior to any drop. It is the responsibility of the student to work with the instructor to agree upon a contract for making up any work. Failure to do so or failure to meet the contract requirements will result in a drop.

A student is considered “at risk” if any of the following apply

* Have a current grade that is an F.
* Have a projected grade that is an F.
* Have missed more than half the labs and/or quizzes.

## Grading

The following formula will be used for grading.

|  |  |  |
| --- | --- | --- |
| Category | Number | Percentage |
| Assignments | 5 | 75 % |
| Quiz | 6 (lowest is dropped) | 15 % |
| Final | 1 | 10 % |

Using the percentages from above, the final letter grade will be determined as follows:

|  |  |
| --- | --- |
| Average | Letter Grade |
| 90+ | A |
| 80 - 89.9 | B |
| 70 - 79.9 | C |
| 60 - 69.9 | D |
| 0 - 59.9 | F |

## Programming Assignments

All assignments must be completed using Visual Studio 2017. Students may either use their home computers or the lab computers as needed. All assignments must be submitted using GitHub as discussed in class.

All assignments are due at the beginning of class on their due date. Any special circumstances should be brought to the instructor’s attention prior to the beginning of class when the assignment is due. Late assignments receive a 10 point deduction for each week thereafter. The cut-off date for all assignments and makeup work is the weekend before final exams.

NO exceptions will be made for missed assignments because of the inability to install software, computer issues, corrupted files or incorrect submissions. All students have access to the computer lab if they cannot use a home computer.

## Original Work

All programming assignments are expected to be a student’s original work. For purposes of this course original work is defined as: code that is written by the student using the student’s own knowledge and understanding.

Students are encouraged to collaborate with other students and use online resources to find solutions but all submitted work must be written and understood by the student. The copying of code from online resources or other students and using as a student’s own is not considered to be original work.

For any assignment, the student may be called upon to explain the code that is written, discuss the rationale for writing of the code and/or possibly rewrite the algorithm without help from the code.

This course has a zero-tolerance policy on cheating. Any student(s) thought to be cheating will have to present their case to the instructor. If it appears that cheating has occurred then a zero will be given for the grade. All students participating in any cheating will be treated the same. Disciplinary action by the College is also possible depending upon the severity.

## Instructor Information

Name: Michael Taylor

Email: Michael.taylor769@my.tccd.edu

Office Hours: Mon 7:15 – 7:45

Office Location: TBD

## Schedule (Tenative)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Week | Date | Topic | Chapters | Assignments Due |
| 1 | 8/20 | **Section 1** Introduction and Visual Studio | 2 |
|  |  | C# Basics, Variables and Data Types | 3 |  |
| 2 | 8/27 | Strings and Console | 3, 16 | Quiz 1 |
|  |  | Control Flow Statements | 5, 6 |
| 3 | 9/3 | *Labor Day* |
|  |  | Arrays and Enumeration | 8 |
| 4 | 9/10 | Objects | 4 |  |
|  |  | Expressions and Type Checking | 5 |  |
| 5 | 9/17 | **Section 2**  Namespaces, Classes and Fields | 10 | Lab 1 Due |
|  |  | Properties and Methods | 7 | Quiz 2 |
| 6 | 9/24 | Windows Forms and Controls | 14 |
|  |  | Child Forms and More Controls | 15 |
| 7 | 10/1 | Inheritance and Constructors | 11 |  |
|  |  | Events and Form Lifetime | 15 |
| 8 | 10/8 | Layouts and Validation | 15 |  |
|  |  | **Section 3**  Lists, Collections and Generic Types | 9, 20 |  |
| 9 | 10/15 | Interfaces and Initializers | 12 | Lab 2 Due |
|  |  | Abstract and Static Classes | 7, | Quiz 3 |
| 10 | 10/22 | Extensions and LINQ |  |  |
|  |  | Anonymous Types and Lambdas | 21 |  |
| 11 | 10/29 | **Section 4**  Exceptions and Error Handling | 13 | Lab 3 Due |
|  |  | Files and IDisposable | 17 | Quiz 4 |
| 12 | 11/5 | ADO.NET Connections and Commands | 22 |
|  |  | Reading Data |  |
|  | 11/8 | *Last day to drop* |
| 13 | 11/12 | **Section 5**  Attributes and Web Basics |  | Lab 4 Due |
|  |  | MVC and NuGet |  | Quiz 5 |
| 14 | 11/19 | *Thanksgiving week* |
| 15 | 11/26 | Controllers and Actions |
|  |  | Routing and Models |  |  |
| 16 | 12/3 | Views and View Helpers |
|  |  | Async | 23 | Lab 5 Due |
| 17 | 12/10 | *Finals week* |