

# Intro To C# Programming

GoSkills online course syllabus

Thursday, November 21, 2024

<b>Skill level</b>	<b>Lessons</b>	<b>Pre-requisites</b>
Beginner	46	None
<b>Video duration</b>	<b>Estimated study time</b>	<b>Instructor</b>
3h 24m	16h for all materials	John Elder

## Setup And Installation

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- 1 Introduction**  
An introduction to the course and what to expect
- 2 Visual Studio Community Installation And Setup**  
Walking through the process of installing and setting up Visual Studio Community
- 3 Visual Studio Walkthrough**  
A quick walkthrough of Visual Studio and some of its basic menus and features
- 4 First Program: Hello World**  
We see what happens when we run our first program, "Hello World"

## C# Fundamental Programming Concepts

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- 5 Variables**  
An introduction to the concept of Variables and how we will use them in C#
- 6 Data Types: Strings, Char, Int, float, double, decimal, boolean**  
We introduce many of the Data Types you can use: Strings, Char, Int, float, double, decimal, and boolean.
- 7 Datetime**  
We introduce the Datetime data type and explain how to set it to a specific value.
- 8 DateTime Functions**  
Let's explore the various functions we can use to display and use the DateTime data type.

**9** Null / Nullables  
We explain the concept of Null, discuss which fields can have a null value, and introduce Nullables.

**10** String Methods  
We examine various String Methods to modify string variables, including changing the case and replacing parts of the string.

**11** String Indexing  
We explain the concept of String Indexing to manage and modify elements within a string.

**12** String Concatenation and Interpolation  
We learn the difference between Concatenation and Interpolation, and when one might be easier to use than the other.

**13** Math (Addition, Subtraction, Multiplication, Division)  
Let's learn how to perform basic math functions: Addition, Subtraction, Multiplication, Division.

**14** Math (Exponents and Modulus)  
In this lesson, we examine how Exponents work and what the Modulus is.

**15** Math Order Of Operations  
We review PEMDAS and how the Order of Operations works within C#.

**16** Math Floats Vs. Ints  
In this lesson, we discuss the differences between integers, floats, decimals, and doubles, and how decimal places may be affected based on the data type you choose.

**17** Math Incrementation ++ and --  
We learn how to increment and decrement variables using ++ and -- commands.

**18** Math Methods  
In this lesson, we learn about Math Methods such as Floor, Ceiling, Round, and Truncate.

## C# Intermediate Programming Concepts

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**19** Converting Integers To Strings  
In this lesson, we discuss how to convert Integers to Strings using the toString method.

**20** Type Conversion/Casting  
We examine the process for Type Conversion and Casting.

- ## 21 User Input / Output

In this lesson, we learn how to capture User Input, assign it to a variable, and Output it to the screen.
- ## 22 Build a Madlib Program!

Let's practice our skills with user input to build a Madlib Program!
- ## 23 Creating and Accessing Arrays

In this lesson, we learn how to create and access Arrays.
- ## 24 Updating Arrays

We explore how to update an existing Array by changing one of its values.
- ## 25 Appending Arrays

Appending Arrays in C# is a bit different than in other programming languages.
- ## 26 Two Dimensional Arrays

In this lesson, we examine how to create and use Two Dimensional Arrays.
- ## 27 Methods

In this lesson, we introduce Methods and how to use them in your program.
- ## 28 Passing Parameters To Methods

Once you've created a method, you may want to pass Parameters to those Methods to perform specific operations.
- ## 29 Return Methods

If you'd like to use Methods and return data to your program, we explore how that's done.
- ## 30 Logic: Comparison Operators (>, >=, <, <=, !=, ==)

In this lesson, we learn about Logic and basic Comparison Operators: >, >=, <, <=, !=, ==.
- ## 31 Logic: If/Else Statements

We introduce If/Else Statements and look at how they run inside a program.
- ## 32 Logic: If/Else And Operators

In this lesson, we learn how to use "And" operators within an If/Else statement.
- ## 33 Logic: If/Else Or Operators

We learn how to use "or" operators within If/Else statements.

**34** Logic: If/Else If  
In this lesson, we learn how to use "else if" within an If/Else statement.

**35** Switch Statement  
We look at how to use a Switch Statement within our program.

**36** Loops: While Loops  
In this lesson, we introduce Loops and explain how While and Do While work.

**37** Loops: For Loops  
We learn how to create and use For Loops within our program.

**38** Loops: Break and Continue  
In this lesson, we explain how to Break and Continue loops.

## C# Error Handling

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**39** Error and Exception Handling  
We discuss how to deal with Errors within your code and how Exception Handling can prevent your program from crashing.

**40** Catching Specific Exceptions  
By anticipating specific kinds of Exceptions, you can program your code to treat them in unique ways without crashing.

**41** Finally Exception Handling  
The Finally part of Exception Handling will ensure specific code runs after try / catch blocks.

**42** Exception Lists  
In this lesson, we identify a helpful Exception List that can help educate you on potential issues that could impact your code.

## C# Object Oriented Classes

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**43** Intro To Classes (Part 1)  
Let's begin a discussion of object-oriented programming so we can create our own data types.

**44** Intro To Classes (Part 2)  
We learn how to create our own class and define the attributes within.

45 Intro To Classes: Constructors  
Constructors provide a simple way to create new objects within our code.

46 Intro To Classes: Object Methods  
In this lesson, we learn how to create Object Methods that operate inside your own classes.

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