# 55337 Introduction to Programming

**Category:** Software Development & Programming | **Vendor:** Microsoft

**Duration:** 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

## Course Information

**Delivery Format:** Instructor Led - Online

## Course Overview

In this 5-day course, students will learn the basics of computer programming through the use of Microsoft Visual Studio 2022 and the Visual C# and Visual Basic programming languages. The course assumes no prior programming experience and introduces the concepts needed to progress to the intermediate courses on programming, Programming in C#. The focus will be on core programming concepts such as computer storage, data types, decision structures, and repetition by using loops. The course also covers an introduction to object-oriented programming covering classes, encapsulation, inheritance, and polymorphism. Coverage is also included around exception handling, application security, performance, and memory management.

## About This Course

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## Who Should Attend

This course is intended for anyone who is new to software development and wants, or needs, to gain an understanding of programming fundamentals and object-oriented programming concepts. They will typically be high school students, post-secondary school students, or career changers, with no prior programming experience. They might want to gain an understanding of the core programming fundamentals before moving on to more advanced courses such as Programming in C#.

### Prerequisites & Entry Requirements

**General Prerequisites:**

Before attending this course, students should have: Ability to use computers to start programs, open and save files, navigate application menus and interfaces, Ability to understand logical concepts such as comparisons, Understand number theory, Ability to create, understand, and follow structured directions or step-by-step procedures, Ability to understand and apply abstract concepts to concrete examples

## Learning Outcomes

**Upon successful completion of this course, participants will be able to:**

Explain core programming fundamentals such as computer storage and processing. Explain computer number systems such as binary. Create and use variables and constants in programs. Explain how to create and use functions in a program. Create and use decisions structures in a computer program. Create and use repetition (loops) in a computer program. Explain pseudocode and its role in programming. Explain the basic computer data structures such as arrays, lists, stacks, and queues. Implement object-oriented programming concepts. Create and use classes in a computer program. Implement encapsulation, inheritance, and polymorphism. Describe the base class library (BCL) in the .NET Framework. Explain the application security concepts. Implement simple I/O in a computer program. Identify application errors and explain how to debug an application and handle errors. Identify the performance considerations for applications.

## Detailed Course Outline

### 1 - Introduction to Core Programming Concepts

- Computer Data Storage and Processing
- Application Types
- Application Lifecycle
- Code Compilation

### 2 - Core Programming Language Concepts

- Syntax
- Data Types
- Variables and Constants

### 3 - Program Flow

- Introduction to Structured Programming Concepts
- Introduction to Branching
- Using Functions
- Using Decision Structures
- Introducing Repetition

### 4 - Algorithms and Data Structures

- Understand How to Write Pseudocode
- Algorithm Examples
- Introduction to Data Structures

### 5 - Error Handling and Debugging

- Introduction to Program Errors
- Introduction to Structured Error Handling
- Introduction to Debugging

### 6 - Introduction to Object-Oriented Programming

- Introduction to Complex Structures
- Introduction to Structs
- Introduction to Classes
- Introducing Encapsulation

### 7 - More Object-Oriented Programming

- Introduction to Inheritance
- Introduction to Polymorphism
- Introduction to .NET and the Base Class Library

### 8 - Introduction to Application Security

- Authentication and Authorization
- Code Permissions on Computers
- Introducing Code Signing

### 9 - Core I/O Programming

- Using Console I/O
- Using File I/O

### 10 - Application Performance and Memory Management

- Value Types vs Reference Types
- Converting Types
- The Garbage Collector

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## Module 1: Introduction to Programming Concepts

- What is programming?
- Programming languages and environments
- Compiling and running code

## Module 2: Variables and Data Types

- Using variables and constants
- Working with data types
- Performing calculations with operators

## Module 3: Control Structures

- Conditional statements (if/else)
- Loops (for, while)
- Practical flow control examples

## Module 4: Functions

- Declaring and calling functions
- Parameters and return values
- Organizing code with functions

## Module 5: Debugging and Troubleshooting

- Common programming errors
- Debugging tools and techniques
- Testing and validating programs

## Module 6: Putting It All Together

- Writing your first complete program
- Combining variables, control flow, and functions
- Next steps in programming

## Upcoming Schedule

**Available training dates for 55337 Introduction to Programming:**

| Start Date | End Date | Location | Delivery | Price |
|---|---|---|---|---|
| 18 Jan 2027 | 22 Jan 2027 | Online | Virtual | €2,995.00 |

## Additional Course Details

Nexus Humans 55337 Introduction to Programming training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the 55337 Introduction to Programming course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

# Frequently Asked Questions

### Q: What delivery options are available for 55337 Introduction to Programming?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

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### Q: How many CPD hours does this course provide?

The 5-day 55337 Introduction to Programming course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

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### Q: What is the duration of the 55337 Introduction to Programming training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

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### Q: Do you provide corporate training for 55337 Introduction to Programming?

Yes, we provide corporate training, dedicated training, and closed classes for 55337 Introduction to Programming. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

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### Q: Why choose Nexus Human for 55337 Introduction to Programming?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

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### Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your 55337 Introduction to Programming training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.


## Nexus Human

**Professional Training & Development**

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