



An Introduction to Software Development

Course Overview

What Is Coding?

Coding allows you to communicate with computers in order to carry out specific tasks. Software developers use different coding languages to create everything from websites and video games to apps.

“Every month, code changes the world in some interesting, wonderful or... disturbing way”.

-Paul Ford - Bloomberg 2015

Who Is ‘An Introduction to Software Development’ For?

This online course is aimed at anyone looking to change their career as well as those looking to upskill across a number of different industries. Typically, many of our students make the move into software development because they are unhappy in their careers and decide it is time for a change.



Our graduates have had the following jobs:

- IT Project Managers
- Technical Sales Practitioners
- Entrepreneurs
- Stay at home parents
- Chefs
- Scientists
- Business Managers
- Marketing Practitioners
- Product Managers
- Creatives
- Professionals interested in software development
- Professionals who collaborate with development teams
- Anyone who wishes to gain an insight into the foundations of software development.



Why Choose Code Institute?

- We understand the importance of education and continuous learning. We have a proven track record of delivering world-class courses in Software Development
- Our advanced course is the Diploma in Software Development, and it is the only University Accredited Coding Bootcamp in Europe
- Our Industry Advisory Council (IAC) meets quarterly with our course director to adapt and improve course content based on industry needs
- You'll have 24/7 access to an engaged online student community and tech support to help you solve any software questions and challenges
- You decide when and where you want to learn. Our dedicated team of in-house educational advisors will provide you with personalised and flexible support
- If you decide that you're interested in a career in software development you will have a number of career focused resources to avail of, including hands on support from our careers team.



Career Benefits

- A comprehensive understanding and command of the foundations of software development
- An understanding of a variety of coding languages and their functions; including HTML5, CSS3, JavaScript and Python
- Confidence to collaborate with technical colleagues in a professional environment
- Technical skills to improve inter-departmental collaboration on professional projects
- An understanding of the technical layers involved in the creation of software and their implementation processes
- The knowledge to implement Open Source technologies and understand how they can transform your business
- An insight into what a career in software development would involve without the stress of committing to a long-term course
- A knowledge of coding that allows you to progress to a more advanced course and become a qualified software developer.



The image features a man in a blue striped shirt using a tablet. A large circular inset in the upper right shows a close-up of his face as he looks at the device. The background is a blurred office setting with other people.

Alexander Cohrs

Technical Consultant | **Fenergo**

"Starting with no development or technical background after a few months at Code Institute, I had the skill-set to gain an entry-level job at a leading financial tech company."

Course Breakdown

In order to provide a comprehensive introduction to software development this course takes a look at important coding languages that make up frontend and backend development.

- Frontend Development
- Programming Languages
- HTML5
- CSS3
- JavaScript
- Python
- Frameworks
- APIs

“I think everybody in this country should learn how to program a computer because it teaches you how to think”.

-Steve Jobs - Apple Inc Founder



Frontend Development

Frontend development is the look and feel of a website, app or software product. It is the visual appeal for the person interacting with your software product. Frontend involves the use of technologies that result in beautiful applications that are easy to use and navigate.

Website users have particular visual interface expectations; applications need to be user friendly. In this module, you'll learn how to ensure that your website and any incorporated software is seamless and easy to use. Gain the knowledge to elicit a positive user experience and response from your website creation. This module will help you understand the concepts, coding languages and technical skills necessary to create websites. Frontend languages covered include: HTML5, CSS3 and JavaScript.



HTML5

HyperText Markup Language (HTML) is a computer language devised to implement website creation. It is relatively easy to learn and quite powerful. HTML is all about content; it defines the structure of the web pages that we view in our browser every time we go to Facebook, Twitter, Amazon, or any other site.

HTML5 is the latest version of the language, which incorporates added video functionality and other features into it. It takes design and structural cues from print media, allowing us to create headings, paragraphs, and insert images. Most importantly, HTML allows us to link externally to other web pages.

The topics covered in this module include:

- HTML Document
- Headings
- Paragraphs
- Divs and Spans
- Comments
- Attributes
- Links
- Lists
- Images
- Forms
- IFrames
- Semantic Web.



Programming Languages

Every aspect of software development comes down to a programmer writing code. Coding languages are the instructions that bring machines to life so that they behave the way we want them to.

There is no ‘best’ programming language. The choice of language for any given project is based on the problem that has to be solved, the developers available, their skills, and their ideas. Other factors such as a large existing codebase, or licences for developer tools may also play a part in the decision.

In this module you’ll learn about the languages programmers use to write code, their similarities and differences, and why a developer may prefer one language over another for a particular task.

- Programming languages and how they work
- How source code is turned into running software
- The places code can run on
- The role of programmers



CSS3

Cascading Style Sheets (CSS) allows developers to create styles, and provides the visual impact for websites without having to write complex HTML. CSS doesn't have to be written into a .html file, and can be linked to from anywhere on the web, allowing for the sharing of style sheets, a practice that is commonly used by developers.

In this module you will learn the foundations of CSS3: the latest version of the language. CSS3 allows you to enhance the User Experience (UX) for web pages. You'll learn how to style and modify the elements that you've created in HTML pages, and how to structure your elements in a balanced way. Gain a knowledge of how to work with different types of fonts, and much more!

The topics covered in this module include:

- CSS3 The Basics
- The Text
- The Box Model
- Layout.





Alun Price

Developer | **Effective Software**

"I've always wanted to build websites and make that my career. Code Institute was a far quicker, more efficient method and I loved that it is very much industry-lead."

JavaScript

JavaScript is a coding language that allows you to enhance your HTML with animation, interactivity, and dynamic visual effects. It integrates the ability to provide immediate feedback to users, making web pages more insightful. For example, a JavaScript-powered shopping cart page can instantly display a total cost to a website visitor, including a breakdown of costs. Javascript has quickly become the most popular language of the web.

In this module you will learn the foundations of JavaScript. In addition to exploring the common concepts and structures that underpin most modern programming languages, you will emerge from the course with the skills and the knowledge required to go to the next level of fully interactive web development.

The topics covered in this module include:

- An introduction to JavaScript
- Working With Numbers
- Comments
- Strings
- Arrays
- Type Conversion
- Loops and Iteration
- Functions
- Object-Oriented Programming
- Handling Exceptions



Python

Python is a powerful general purpose language. It is considered more readable and intuitive than other languages that serve the same purpose. Python can be used to build web or app prototypes, web development, simple scripting and data analysis. It is a constantly evolving language thanks to its open source nature; Python has an extensive community of volunteers who are passionate about improving the language. It is a powerful language and is popular among tech and web giants like Google, Instagram and Reddit.

This module will provide you with an understanding of the foundations of Python. You will learn how to make calculations, write algorithms, and instruct a computer to make decisions and perform repetitive tasks. You will experience how all these elements come together when you're building projects and applications.

The topics covered in this module include:

- Numbers, Operators, Variables and Types
- Strings
- Booleans and Decision Structures
- Iteration
- Improving Reuse and Readability with Functions
- Collections.



Frameworks

A **framework** is a platform for developing software applications. Using a framework, developers can devote more time to developing the software requirements, not just preparing the environment and tools of application development. Frameworks encourage developers to follow specific design patterns in order to produce clean, seamless code. This enables the future maintenance and enhancement of the code.

Frameworks make a developer's job easier by reducing the time and energy in developing software. This module will provide you with the knowledge to accelerate your development process through the use of existing frameworks to get your applications up and running efficiently and successfully.



Application Programming Interfaces

Application Programming Interfaces or APIs are conditions that govern how one application can talk to another. They allow different applications to communicate despite the origin of the programming languages and platforms used to create them.

Many software vendors create APIs to allow third party applications access functionality and data in a secure way. API access can be free or monetized. APIs have also contributed to making the Internet Of Things (IOT) a reality. In this module you'll learn about how applications connect API's together and how the IOT will affect your life and business.





Certification

- Code Institute Certification in Software Development: An Introduction
- Printed certificate and digital certificate for display on LinkedIn.



Start Date

- You can enrol every Tuesday.



Price

- Our course price is €1495
- Are you interested in a monthly payment plan? You can choose four monthly installments of €375
- Students who progress to The Diploma in Software Development will get their paid course fee deducted from the price of the Diploma; the final price is €3750, saving you €1500.





Assessment

- Each module will have a number of quizzes throughout
- Quizzes must be completed before the certificate is awarded at the end of the course
- Two mini projects; the first project will incorporate HTML, CSS and JavaScript skills, and the second one will be based on Python
- We recommend 10 hours of learning per week to complete the course in two months
- If you're studying full-time the course could take as little as two weeks.



Are you ready to start your coding journey?

To learn more about our courses and pricing,
feel free to contact an education adviser at

info@codeinstitute.net

Or visit

www.codeinstitute.net

