code institute

Diploma in Tech Fundamentals

COURSE OVERVIEW

Diploma in Tech Fundamentals

In an age where technology and data are rapidly transforming every industry, technically skilled staff are key to gaining a competitive advantage.

Non-technical professionals are constantly exposed to technical terminology that they struggle to understand. This damages productivity on both sides, as barely-briefed IT staff are struggling to deliver on expectations.

“46% of developers cite poor team or organisation management as the reason why software projects fail” according to an International Data Group survey.

While non-technicals continue to struggle to communicate with their software project team, projects are delayed, run over budget or worse – they never see the light of day.

The demand for technical fluency has grown to the point that 75% of executives surveyed by Deloitte believe they will need technical training in the next two years.

Develop your staff’s IT communication skills over 30-hours of digestible video content with a Diploma in Tech Fundamentals!

Learn from anywhere in the world, at any time with our mobile-friendly learning platform – so there’s no need to worry about losing any crucial staff members.

Who is this course aimed at ?

- Project Managers
- Entrepreneurs
- Marketers
- Accountants and Financiers
- Human Resources Professionals
- Anyone Working Closely with Technology

Learning Outcomes:

- Get ahead of the game: Improve your overall tech-literacy and stay relevant.
- Leverage the benefits of Big Data and the Cloud.
- Identify opportunities and threats.
- Improve you communication and cross-team collaboration with IT teams and tech colleagues.
- Grasp the core principles of coding.
- Identify the most relevant programming languages in Front End and Back End development.
- Take control of the technical elements of projects that affect your department/role.
- Make more effective decisions by understanding development processes, skills, languages and IT tools.
- Eliminate waste & downtime: Implement Lean and Agile work practices in your workplace.

After completing 30 hours of digestible video content, you'll finish with an excellent understanding of efficient communication, cross-collaboration, and the language of code.

Cost: €1495 **Duration:** 30 hours

To learn more, contact us:

Phone: 01 539 7973

Email: Info@codeinstitute.net

Website: Codeinstitute.net/diploma-in-tech-fundamentals

COURSE CONTENT

MANAGE

37% of developers cite poor team or organisational management as the reason for software projects failing”

MODULE 1
Front End Development

Front End Development involves the use of technologies that result in beautiful applications that are easy to use and navigate.

Front End 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. But how does front end development breakdown into individual components and why is it important?

The Front End Development module will help you understand the concepts, languages and skills that developers use to create rich and intuitive customer experiences through your website, app or software product.

The topics covered in this module:

- HTML/CSS
- JavaScript
- Native vs Responsive Apps
- User Centred and User Interface Design (UI)
- Interaction Design (IxD)
- Information Architecture
- Usability Testing and Prototyping
- Build a Responsive Web App

MODULE 2
Programming Languages

The Programming Languages module introduces you to the languages used to write code. Programming Languages are used for creation and and application of the rules that govern how your product will behave.

The Programming Languages module will introduce you to the most commonly used programming languages in software development. You will familiarise yourself with and understand why some languages are preferred when building web based software applications, and how to work with the limitations of each language.

The topics covered in this module:

What is Programming Languages?

- Functions
- Code Complexity
- Languages
- Functional and Object Oriented Programming
- Compilers/Interpreters
- Ecosystems/Platforms
- Why do Programmers Care?
- New Language Considerations
- Dealing with Data
- Language Debates

MODULE 3
Data Storage & Retrieval

The vast majority of Software Development involves creating programs that manipulate data in some fashion. We can view applications as a means of dealing with data in three forms:

1. Data as presented (The Front End). This is what the end user of the data sees. For example this could be the displayed list of available flights on an airline booking system.

2. Data in motion (Back End) This is where the application's business rules are added to the data. This is where a flight is reserved and paid for.

3. Data at rest (A Database System). This is where the data is stored. This could be the store of flight schedules, booked and available seats.

The Data Storage & Retrieval module will introduce you to the high level concepts, languages and tools used to store and access data. You will explore how data has been stored in the past and how data is being stored now and in the future.

The topics covered in this module:

- What is Data?
- Introduction to Relational Databases
- Relational Database Design
- Relational Data Access And Manipulation
- Introduction to Document Based Databases
- Document Based Database Design
- Document Based Data Access And Manipulation
- Data Backup and Retrieval
- Tools

COMMUNICATE

"A basic knowledge of code is useful even in traditional fields, because software is changing everything."

REID HOFFMAN, LINKEDIN CO-FOUNDER

MODULE 4
Data Management

The Data Management module is designed to show you who uses your data and how you can use your data for analysis.

Data Management is really about the users of and uses for information.

It is about understanding the data that support your business processes and providing you with new opportunities and areas for analysis. You will familiarise yourself with the skills, methods and tools used to gain valuable insights from the vast volumes of data available to you in your business, and in our connected world.

Data Management will allow you to make better decisions.

The topics covered in this module:

- Data Versus Information
- Data Governance
- Big Data
- Data Analytics
- Data Visualization
- Tools

MODULE 5
Cloud Computing

Cloud computing enables individuals and businesses to store, access and process data and resources remotely, rather than having to build and maintain in-house computing infrastructures like servers and databases. Cloud services as a resource can be accessed on demand and like electricity or gas – business' usage plans can be tailored to their needs.

In the Cloud Computing module you'll learn about the methods and layers of Cloud service delivery. You'll also become familiar with the main providers, their services within the Cloud Computing space and how they add value to your business.

The topics covered in this module:

- What is Cloud Computing?
- Infrastructure As A Service (IAAS)
- Platform As A Service (PAAS)
- Software As A Service (SAAS)
- The Main Players
    - Amazon
    - Emc
    - Google
    - HP
    - Microsoft Azure
    - Pivotal Labs
    - RedHat
    - Heroku
    - Dropbox
    - Salesforce

COMPETE

"Marketing Technology today requires marketers to be data-driven and tech savvy"

DM NEWS

MODULE 6
Application Programming Interfaces

Application Programming Interfaces (API's) allow different applications to communicate regardless of what programming languages and platforms were used to create them. They allow applications created for very different purposes to speak to each other and work together.

Many software vendors create API's to allow third party applications access to their software's functionality and data in a relatively secure way. This functionality allows you to create automated processes in your business, for example adding an email subscriber to your customer relationship management (CRM) software automatically.

API's have also contributed to creating the Internet Of Things (IOT) a reality. In the Application Programming Interfaces module you'll learn how APIs are created and made available. You'll explore the API's of some of the world's most popular software applications. You'll also learn how the IOT will affect your life and business.

The topics covered in this module:

- What is an Application Programming Interface (API)?
- The Internet of Things (IOT)
- What is REST?
- Popular API's
  - Facebook
  - Twitter
  - Google
  - Amazon
  - PayPal
  - Salesforce
  - Stripe
- API Glue
  - Zapier
  - If This Then That
  - CloudHQ
  - Skyvia

MODULE 7
Open Source Development

Open source generally refers to any program whose source code is made available for use or modification as other developers see fit.

Open source software is usually developed as a public collaboration and made freely available. Most businesses use open source software without even realising it. Firefox for example is an open source browser used by millions around the world.

Open source software can offer better security, cost, customisation, reliability, flexibility and support for its users. The goal of this module is to give you the knowledge to make decisions as to how suited open source products are for your goals and how they fit into your business' development.

The topics covered in this module:

- What Open Source Is & Isn't
- Open Source Products
- Licensing and Distribution
- The Future of Open Source

MODULE 8
Frameworks

Frameworks are a way of creating software applications very quickly. They are customisable templates which allow you to create things much faster than if you were starting from scratch – although templates are restrictive.

One of the most famous frameworks is Wordpress, a Content Management System (CMS) framework that allows you to create a website in minutes.

Developers use frameworks to create software in a shorter period of time. This module will help you understand what frameworks are, why developers use them and how their use can affect your department or role.

The topics covered in this module:

- What is a Framework?
- Boosting Productivity with Frameworks
- Django
- Rails
- .Net
- Wordpress
- Plugins & Customisation

DISCOVER

"Whether people plan on becoming software engineers, marketers, recruiters or CEO's they need to be technically fluent - their personal and professional success depends on it"

KLEINER PERKINS CAULFIELD & BYERS

MODULE 9
Software Development Process

Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test high quality software. One variant of this is the Agile SDLC model.

In the Software Development Process module you will learn how developers work within an Agile environment. This approach will help you understand why developers are better able to deliver value incrementally by creating a Minimal Viable Product (MVP) based on the 'must-have' features for a product, and later adding on additional key features.

The topics covered in this module:

- The Software Development Lifecycle
- Why Projects Fail and How to Minimize Risk
- Agile Development
- Version Control
- Lean Organisations
- Tools

MODULE 10
Building and Empowering Great Teams

A great software development team combines trust, craftsmanship, meritocracy, experience and curiosity. Putting all of those elements in place can be difficult, especially in the light of the continuing global shortage of talent.

In the Building and Empowering Great Teams module you will learn how to unearth the great candidates that others are missing, make the best candidates seek you out and want to work with you. You'll understand the knock on effect on a team of a new hire and understand the essential do's and don'ts for interviewing software developers.

The topics covered in this module:

- Building a Team
- Hiring the Best Candidates
- Retaining the Best Candidates
- Working With Contractors
- Working with Remote Workers
- How to Engage with The Developer Community
- Introduction GitHub?

Communicate, Collaborate, Manage & Discover

To learn more please call our Sales Team

Phone: 01 539 7973

or visit our website

Codeinstitute.net/diploma-in-tech-fundamentals

code institute

Codeinstitute.net/diploma-in-tech-fundamentals