Institute of Business and Technology

Computer Programming with Java (Online)

Study details

Course type: Professional Diploma
Degree: Diploma in Computer Programming with Java
Study mode: Full time
Duration: 12 Week Month

Cost of study

Cost : 765 EUR
Reg. fee : N/A EUR
Scolarship :
Insurance : N/A EUR

Intake/s

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Requirements

Entry Requirements

This course is aimed at learners with little or no prior programming experience, but a desire to understand computational approaches to problem solving.

Students are required to be fluent in basic digital literacy on Windows as follows – ability to:

- Type and edit files
- Understand the keyboard (backspace v del, tab key)
- Have very basic typing skills, ability to type with some proficiency i.e. not pecking with 2 fingers
- Use the file system – copy and paste files, delete and move files
- Create folders / navigate around folders
- Rename files and folders
- Understand the difference between files and folders
- Copy and Paste text within files
- Use zip files

Minimum computer requirements for the online course

- Any Microsoft Windows 10/11 or Apple Mac OS, but must have a minimum of 8GB of memory or higher to provide a much better learning experience.
- Computer processor should be Core i5 (or higher) or an AMD equivalent.
- Google Chromebooks are not suitable.

- Good reliable broadband connection.

Accommodation
Speciality

One evening per week

- Wednesdays

Additional information

Course Overview

This course is designed to provide students with a comprehensive introduction to Java, one of the world's most popular and versatile programming languages. Java is known for its platform independence, making it a critical language in web, mobile, and desktop application development. Whether you're a beginner looking to kickstart your programming journey or an experienced developer seeking to add Java to your skillset, this course will equip you with the foundational knowledge and skills needed to write Java applications.

Course Outline:

Week 1
Introduction to Java Programming: In this class, you will learn to use the Java Development kit to create Java programs that print text to the screen, obtain input from the user, perform calculations, and print results on the computer screen. (You will be instructed to prepare your computer for Java programming before the course begins.)

Week 2;
Introduction to Classes and Objects: You will be introduced to OOP (Object Oriented Programming). You will learn to create Java programs using multiple files and simulate real-world objects.

Week 3 and Week 4
Java Control Structures: You will learn fundamental problem-solving techniques and the basic programming structures that allow your program to make decisions (if/if..else statements) and repeat code (repetition structures).

Week 5
Methods A Deeper Look – You will learn to create a class (static) and object methods and understand the mechanism for passing information between processes. You will learn to overload methods and manage the scope and lifetime of methods and objects.

Week 6
The Collections Framework Arrays and Array Lists: You will learn how to use data structures to store and process efficiently a large amount of data in memory.

Week 7
Classes and Objects a Deeper Look: In this class, we will explore object-oriented programming

concepts, such as data hiding and encapsulation, and learn how to create abstract data types. You will learn how to organise classes as packages that promote software reuse. We will also cover software reuse using composition.

Week 8
Object Oriented Programming Inheritance and Polymorphism. You will learn how to effectively reuse existing classes to create new classes and promote efficient software development.

Week 9
Exception Handling: You will learn to use the Java exception (error) handling mechanism to create robust software by handling exceptions (errors). At the same time, the program runs, allowing your program to recover from the problem and continue.

Week 10
File I/0 (file input/output): In this class, you will learn how to create, read and update text and binary files. You will learn how to manage files and folders.

Week 11
Graphical User Interface (GUI): In this class, you will learn how to create graphical user interfaces to create programs that respond to mouse and keyboard actions. You will learn GUI design principles and how to use layout managers and generate and manipulate buttons, labels, lists, text fields and panels,

Week 12
Project Example: In this final class, we will build an application similar to your end-of-course project and combine many of the features of Java previously covered into a single application.

Course Duration:

This 12-week course lasts one session per week, lasting 3 hours. Additional self-study and practice time are encouraged.

Assessment:

The course will be assessed through quizzes, assignments, and a final project.

What is a Professional Diploma?

An IBAT Professional Diploma is a focused, short duration practical course that consolidates, upskills and/or reskills learners in a professional area. They are stand-alone qualifications that do not lead to an award on the National Framework of Qualifications (NFQ).