# Programming, Applications and Coding

Module Description

The emphasis of this unit is on the practical activities. The aim of this unit is to introduce the learners with the basic programming structures found in any programming language through practical activities. At the end of this module learners will be able to understand and implement variables, understand and implement decision making statements, understand and implement iterative statements and exception handling.

Module Content

Session	Duration	Activities	Resources
Introduction	15 min	• Introduction • Housekeeping	Powerpoint presentation
Interface and variables	2 hours 45 min	• Definition of programming languages and IDE • Creating a project • How to use Visual Studio to create a User Interface • Explanation of Data Types • Reading user input • Exercise1 • Exercise 2	Powerpoint presentation Visual Studio
Arithmetic Operators	2 hours 30 min	• Different operators to use • How they are used • Using them in shorthand • Exercise	Powerpoint presentation Visual Studio
Relational Operators	2 hours 30 min	• Different operators to use • How they are used • How to use conditional statements	Powerpoint presentation Visual Studio
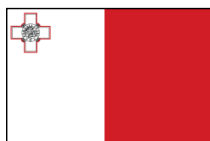
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Lesson Plans

Lesson 1

- User Interface
- Data Types (int, String, bool, double)
- Declaration and Initialisation/assignment
- Interface exercise

Lesson 2

- Arithmetic operations (+,-,*,/)
- Calculator exercise
- Conditions (If Statement)
- Operational operators (>,>=,<,<=,==,!=)
- Operational operators exercise

Syllabus

- User Interface
- Variables
- Arithmetic Operations
- Conditional Statements
- Relational Operators

Learning Outcomes

- Know how to design a basic user interface
- Understand and implement variables
- Know how to implement arithmetic operations
- Know how to use conditional Statements
- Know how to use relational operators