Object Oriented Paradigms

Course Syllabus

Course Description:

This Course covers the basic concepts and notions of Object Oriented Programming and Unified Modeling Language (UML). The course goes into the details of the three cornerstones of OOP: Encapsulation, Inheritance, and Polymorphism.

Prerequisite Course(s):

- Programming using C++

Learning Objectives:

- To introduce the Object Oriented way of thinking to the trainees.
- To familiarize the trainees with the class, object, and related terms of OOP.
- To provide the trainees with the necessary knowledge of encapsulation, inheritance and polymorphism

Course Outline:

- Introduction to OOP.
- Classes and Objects.
- Encapsulation.
- Introduction to UML notations.
- Member Functions, Member Variables, and Constructors.
- Instance Variables and Methods VS. Class Variables and Methods (static members).
- The “this” pointer.
- Function Overloading.
- Aggregation and Association Relations.
- Inheritance and its benefits.
- Function Overriding.
- Abstract Classes and Abstract Functions.