



## **7. Brief list of topics to be covered**

- Introduction to C/C++ programming. Typed variable declarations, keyboard input, screen output, expressions (2 Lectures).
- Conditional branching, loops, and iterations (2 Lectures).
- Functions, parameter passing, overloading (3 Lectures).
- C-style arrays and C++ arrays (3 Lectures).
- Pointers and dynamic memory allocation (3 Lectures).
- Lab 1: functions, arrays, and pointers. Debugging (2 Lectures).
- Introduction to Object-Oriented Programming. Abstraction and Encapsulation. Classes and instances (2 Lectures).
- Visibility: private and public access, constructors and destructors, methods: actions and predicates, copying (2 Lectures).
- Lab 2: Classes (2 Lectures).
- Basic inheritance: concept, static link resolution and hiding, protected access, constructors and destructors, deep copying (3 Lectures)
- Basic polymorphism: dynamic link resolution and virtual functions, substitutions, abstract classes, and heterogeneous collections (2 Lectures).
- Lab 3: Inheritance and Polymorphism (2 Lectures).