

Object Oriented Programming with C++

- A journey from POP to OOP using the C language
 - A sample procedural design
 - Modular programming
 - Abstract Data Types
 - Information Hiding
- Introducing "non Object Oriented" C++ features
 - Basic I/O
 - References
 - Constants
 - Dynamic Memory Management
 - Namespaces
 - Function overloading
 - inline (towards eliminating macros)
- Object Oriented Programming support in C++
 - From struct to class
 - Encapsulation
 - The this pointer
 - Constructor, Destructor, Copy Constructor
- More C++ features
 - Const members

- Static members
 - Friends
 - Operator overloading
- Advanced OOP support in C++
 - Inheritance, Sub-class constructors
 - Polymorphism, virtual functions
 - A short introduction to UML
- Exceptions
- Generic Programming
 - Templates
 - Introduction to the Standard Template Library
- Abstract Data Types
 - Lists
 - Sets
 - Iterators
 - Stacks and Queues
 - Ordered Collections, Trees
- Best Practices
 - Unit testing
 - Logging