

## C++ Programming

Academic Year: ( 2022 / 2023 )

Review date: 19-05-2022

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: GARCIA SANCHEZ, JOSE DANIEL

Type: Additional training ECTS Credits : 3.0

Year : 1 Semester : 1

## OBJECTIVES

Know the main basic features of the C++ programming language.  
 Use control structures in C++.  
 Understand the argument passing model and memory management in C++.  
 Know the error management mechanisms in C++.  
 Design user defined types in C++.  
 Use input/output streams in C++.

## DESCRIPTION OF CONTENTS: PROGRAMME

The C++ language.  
 Objects, values and types.  
 Control structures  
 Error management.  
 Scope, organization and parameters.  
 Functions and parameter passing.  
 User defined types: classes and enumerated types.  
 Operator overloading.  
 Interface design.  
 Input/output streams.  
 Dynamic memory.

## LEARNING ACTIVITIES AND METHODOLOGY

## TEACHING ACTIVITIES ACTIVITIES

AF1: Theoretical presentations of synchronous teaching, accompanied by electronic material, such as digital presentations.  
 AF2: E-learning activities.  
 AF3: Theoretical/practical classes.  
 AF4: Laboratory practices.  
 AF5: Tutoring sessions.  
 AF7: Individual work of the student.

## TEACHING METHODOLOGIES

MD1: Lectures in class (in non-face-to-face synchronous teaching mode) by the teacher with computer and audiovisual media support, in which the main concepts of the subject are developed and the bibliography is provided to complement the students' learning.  
 MD2: Critical reading of texts recommended by the subject instructor: Press articles, reports, manuals and / or academic articles, either for later discussion in class, or to expand and consolidate the knowledge of the subject.  
 MD3: Resolution of practical cases, problems, etc ... raised by the teacher individually or in a group  
 MD4: Presentation and discussion in class, under the moderation of the teacher, of topics related to the content of the subject, as well as practical cases  
 MD5: Preparation of works and reports individually or in groups  
 MD6: Specific e-learning activities, related to the semi-face-to-face nature of the degree, including viewing recorded content, self-correction activities, participation in forums, and any other online teaching mechanism

## ASSESSMENT SYSTEM

SE1: In class participation: 10%

SE2: Individual work performed during the course: 30%

SE3: Face to face exams: 60%

**% end-of-term-examination:** 60

**% of continuous assessment (assignments, laboratory, practicals...):** 40

## BASIC BIBLIOGRAPHY

- Bjarne Stroustrup Programming: Principles and Practice Using C++, 2nd Edition, Addison-Wesley, 2014

## ADDITIONAL BIBLIOGRAPHY

- Bjarne Stroustrup The C++ Standard Library: A Tutorial and Reference, Addison Wesley, 2012
- Bjarne Stroustrup A Tour of C++. 2nd Edition, Addison Wesley, 2018

## BASIC ELECTRONIC RESOURCES

- Cpp Reference . C++ Reference: <https://en.cppreference.com/w/>