Course Title : **INTRODUCTION TO COMPUTER PROGRAMMING (C++)**
Course Number : **52153**
Field : **IT, GENERAL**
Credits : **3**
Prerequisite : **MATH I**
Prepared by : **Mahdi Sani**

Course Objective:

This course is designed to provide students with the basic capabilities required to write computer programs.

Outlines

1. Introduction to Computers and Programming Languages.

2. Basics of C++ Programming.

3. Expressions and Statements.

4. Selection (if, switch-case, logical expression).

5. Repetition (for, while, do-while).

6. Functions (library functions, user defined function, data exchange, scope, lifetime).

7. User defined types (classes, constructors, destructors, instance members, static members, OOP).

8. Arrays (one and multi-dimensional arrays).

9. References, Pointers, and Memory Management (references, pointers, relation with arrays, dynamic memory allocation).

10. Strings (C-strings, C++ strings).

Text Book: Forouzan, Behrouz A., Gilberg, Richard F., C++ programming: an object-oriented approach, McGraw-Hill Education, 2020.

References and Supplementary Readings:

Herbert Schildt, "C++ from the Ground Up", McGraw-Hill.

Bruce Eckel, "Thinking in C++", Prentice Hall.