Fundamentals of programming

Course # COMP 1071

Credits 6

Prerequisites and/or Corequisites: None

Course Description

This course introduces programming and problem-solving using Python. The course emphasizes principles of software development, style, and testing. The primary goal of the course is to give students a basic introduction to object-oriented and procedural programming, using Python. The topics include an operational model of Python execution, procedures and functions, iteration, recursion, lists, strings, algorithms, exceptions, object-oriented programming. Weekly labs provide guided practice on the computer.

Course Learning Outcomes

Upon the completion of this course, students will:

- Define the role of programming in solving problems in different domains.
- Apply procedural statements — assignments, conditional statements, loops, function calls — and lists in Python programming.
- Design Python programs following the requirements and principles of top-down design.
- Use recursion in Python programs.
- Define basic concepts of object-oriented programming, including classes, subclasses, inheritance, and overriding.
- Define the basics of computation through programming.

Course Assessments and Grading

Item	Weight
Attendance	14 %
Quizzes	16 %
Labs	20 %
Semester project	20 %
Final exam	30 %