A2: BIT PROGRAM SPECIFIC REQUIRED COURSES

Course Name: Introduction to Computing **Course Code:** COMP111

General Information						
Course Code	**COMP111**	**Level/Year**	**1/1**	**Required (R) / Selected Elective (SE)**		**R**
Credit Hours	**Theory**	**2**	**Lab**	**1**	**Total**	**3**
Prerequisites	**Nil**	**Course Coordinator**		Mr. Alighazi Siddiqui		
Corequisites	**Nil**					

Course Description

This course introduces the fundamental concepts and features of Computer. It includes the basics of Computer Hardware, Software, Input / Output devices, Computer User / Client, Computer Architecture, Programming, Data Representation, and Utility Applications. This course also covers Python 3 programming language. This is an introductory course designed for all students of Computer Science. Students will use their problem-solving abilities with programming to implement basic programs in Python.

Course Objectives : On completion of the course, the student will be able to:

- **Discuss** the basic hardware and software components of a personal computers and their applications.
- **Explain** the basic fundamentals of data representation, algorithms, flowcharts and computer programming languages.
- **Explain** the fundamentals of Python programming.
- **Explain** the use of procedural statements - assignments, conditional statements, loops, iterations, strings and lists.

Course Contents

List of Topics
CH 1: Introduction to the worlds of computers
CH 2: Variables, Expressions and Statements
CH 3:Conditional Execution
CH 4: Loops & Iteration
CH 5: String

Textbook

- Think Python: How to Think Like a Computer Scientist by Allen B. Downey O'Reilly Media; 2 edition (December 28, 2015), ISBN-13: 978-1491939369

Reference Materials

- Deborah Morley, Charles S. Parker, "Understanding Computers Today and Tomorrow", Cengage Learning, 13th Edition, ISBN- 13: 978-1285767277, 2011.
- Allen B. Downey O'Reilly Media "Think Python: How to Think Like a Computer Scientist", 2nd Edition, ISBN-13: 978- 1491939369, 2015.

Course Learning Outcomes

CLO#01	**Explain** the major components of a personal computer, including input, output and process, storage, communications hardware and describe their functionalities.
CLO#02	**Define** the fundamentals of Programming using procedural statements, use of conditional statements and Data Types.
CLO#03	**Compare** various types of Computers and Input / Output Devices.
CLO#04	**Design** algorithms and flowchart for a basic given problem.
CLO#05	**Develop** a program to solve a given problem using the language syntax and semantics.
CLO#06	**Ability** to work in a team to solve a given problem.