Problem Solving Using Computer (COMP101TH)

"Computer technology is so built into our lives that it's part of the surroundings of every artist."

--Steven Levy

Welcome to the course COMP-101Th (Problem Solving Using Computer). Through this course you will get insight about the basic fundamentals of computers and how computers are organized. You will learn what kind of techniques we may apply to solve the problems through computers.

In the next half of the course, we will learn about the Python programming language. Python is an interpreted, high level and general purpose programming language designed by Guido van Rossum in 1991.

You can use Python for developing desktop GUI applications, websites and web applications. Python is commonly used in artificial intelligence projects and machine learning projects.

Course Outcomes:

- ***Students will be equipped with essential knowledge and skills required to solve problems using computers and specifically using the Python programming language.***
- ***Students will learn fundamentals of programming, problem-solving techniques and the ability to develop structured programs.***
- ***Students will get exposure to advanced Python concepts that will expand their programming capabilities.***

Course Material: All the course material will be available on Canvas.

In the beginning of the course, all the students will receive an invite on their respective e-mail IDs for joining the course.
I will use e-mail Ids that you have filled in your Admission forms. If some of you will be using any alternate e-mail ID then do update me.

For queries related to course material, the in-built messaging system of canvas is recommended.

Link to Course Material: Will be updated once the session starts

All the assignments, quizzes and tests will be maintained online on Canvas only.

Course Schedule

Total Lectures: 34 + Final Project + Lab Exercises

Class Time: as per time-table approved by the College.

Room No: 129 (1st Floor, Old Building Govt. College Hamirpur)

All the practical classes will be conducted in the Department of Computer Science Lab (Room No: 128) on 1st floor of the old building of Govt. College Hamirpur.

The schedule of lectures will be in accordance with the approved academic calendar of the college.

Lectures	
	Introduction
Lecture: 1	What is Computer
Lecture: 2	Classification of Computers
Lecture: 3	Computer Generations
Lecture: 4	Basic Computer Organization
Lecture: 5	Memory Hierarchy
Lecture: 6	Registers and Cache
Lecture: 7	Primary(Main) Memory
Lecture: 8	Secondary Memory

Lecture: 9	I/O Devices
Unit Test-1	
Lecture: 10	Concept of Problem Solving
Lecture: 11	Debugging, Types of Errors & Documentation
Lecture: 12	Techniques of Problem Solving (Flow Chart, Decision Table and Algorithms)
Lecture: 13	Structured Programming & Programming Methodologies
Unit Test-2	
Lecture: 14	Overview of Programming
Lecture: 15	Python IDLE
Lecture: 16	Python Identifier and Keywords
Lecture: 17	Type, Input and Print Functions
Lecture: 18	Operators in Python
Lecture: 19	Python Looping Statements
Lecture: 20	Python Loop Control Statements
Lecture: 21	Python Conditional Statements
Unit Test-3	
Lecture: 22	Python Lists

Lecture: 23	Python Tuples
Lecture: 24	Dictionary in Python
Lecture: 25	For Loop in Python
Lecture: 26	Python Functions
Lecture: 27	Python Modules (Date & Time Module)
Lecture: 28	Classes and Objects in Python
Lecture: 29	Inheritance in Python
Lecture: 30	Regular Expression in Python (Part-I)
Lecture: 31	Regular Expressions in Python (Part-II)
Lecture: 32	Regular Expression in Python (Part-III)
Lecture: 33	GUI Programming in Python
Lecture: 34	Python GUI Programming
Unit Test-4	
Final Project	