CS1002 Programming Fundamentals

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Course Content

Introduction to problem solving, Introduction to programming, role of compiler and linker, introduction to algorithms, basic data types and variables, input/output constructs, arithmetic, comparison and logical operators, introduction to modular programming, function definition and calling, conditional statements and execution flow for conditional statements, repetitive statements and execution flow for repetitive statements, arrays and their memory organization, multi-dimensional arrays, string and string operations, pointers/references, static and dynamic memory allocation, File I/O operations, debugging and exception handling.

Course-Level Learning Outcomes

At the end of the course the students will be able to:

CLO1: Understand basic problem-solving steps and logic constructs

CLO2: Apply basic programming concepts

CLO3: Design and implement algorithms to solve real world problems.

Textbooks and Course Materials

Title: Computer Science: A Structured Programming Approach Using C

Author: Behrouz A. Forouzan, Richard F. Gilberg

Title: C How to Program

Author: Paul Deitel, Harvey Deitel

Marks Distribution

Assessment Type	Weightage
Sessional I:	15%
Sessional II:	15%
Finals:	50%
Assignments + Project:	10%
Quizzes:	10%

Tentative Tools and Technologies

- PowerPoint Slides
- Code Blocks (IDE) / Dev

Class Policy & Etiquette

- Zero tolerance plagiarism policy will be adopted; All involved will be penalized.
- Attendance will be marked in the first five minutes of class. A student must maintain at least 80% of attendance to appear in final exams.
- No chewing of bubble gums.
- Cell phones strictly prohibited during classes and labs. Electronic devices must be turned off and placed in your bags (not on the desk just in front of you).
- Headphones should be removed all the time.
- During lectures, students must turn off their monitors and take notes. Using the computer during lectures without authorization is strictly not allowed.
- Persistent talking, whispering or any disruptive attitude will not be tolerated.
- No disrespect at all.

Tentative Week wise Course Content

Week no	Week Topics & Homework
1	Introduction to program & Course outline discussion
2	Problem Solving
3	Variables and Types Expressions & Operators Formatted print statements
4	Functions & Scope of a variable
5	Conditional Statements
6	SESSIONAL 1 (one week + -)
7	Repetitive Statements
8	Recursion
9	Arrays
10	Type Conversion, Input from user, Overflow and Underflow, IDE & preprocessors
11	SESSIONAL 2 (one week + -)
12	Exception Handling & Debugging
13	File Handling
14	Pointers & Dynamic Arrays
15	Structure
16	FINAL EXAM