

Guru Jambheshwar University of Science & Technology
Hisar – Haryana

offers short term training program

on

C/C++

The course starts from 19 June, 2017

Eligibility :

Students of Diploma/Engineering

Visit our website www.gjust.ac.in for course details

Contact :

University Computer & Informatics Center,

GJUS&T Hisar

Ph. No, 01662-263641, 263648

**UNIVERSITY COMPUTER & INFORMATICS CENTRE
GURU JAMBHESHWAR UNIVERSITY OF SCIENCE &
TECHNOLOGY, HISAR**

Introduction:

University Computer & Informatics Centre (UCIC) is a central facility to meet the computing requirements of all the students, research scholars, staff and faculty of the University. At present it has more than 140 computers including latest configuration server and peripherals.

Objective of the program:

- Technical skill development of students in development of projects.
- This helps in placement of students in Software Company.
- To impart training at an affordable cost.
- Revenue generation for University.

Eligibility:

- Students of Diploma/Engineering

Seats : 30

- Preference will be given to University Students on first-cum-first-basis.

- If some seats remain vacant then it will be offered to the students of other institutes.

Duration of Course:

- Two Months (Working Days) from the starting date of course.

Timings : 3 – 5 PM (2 Hours)

Days off : Weekend (Saturday and Sunday) and Holidays

Course Coordinator:

- Mukesh Arora (Head, UCIC)

Teachers :

- Sh. Darpan Saluja, Programmer, UCIC, GJUS&T Hisar
- Sh. Kuldeep Singh, Programmer, UCIC, GJUS&T Hisar

Fee Structure

- Total fee in lumpsum will be taken in advance for total course
- Fee for complete course – Rs. 3000/-

Detailed syllabus

SYLLABUS FOR C LANGUAGE

INTRODUCTION

CHARACTER SET. VARIABLES AND IDENTIFIERS, BUILT-IN DATA TYPES. VARIABLE DEFINITION, ARITHMETIC OPERATORS AND EXPRESSIONS, CONSTANTS AND LITERALS, SIMPLE ASSIGNMENT STATEMENT, BASIC INPUT/OUTPUT STATEMENT, SIMPLE 'C' PROGRAMS.

CONDITIONAL STATEMENTS AND LOOPS

DECISION MAKING WITHIN A PROGRAM, CONDITIONS, RELATIONAL OPERATORS, IF STATEMENT, IF-ELSE STATEMENT, LOOPS: WHILE LOOP, DO WHILE, FOR LOOP. NESTED LOOPS, SWITCH STATEMENT, STRUCTURED PROGRAMMING.

ARRAYS

ONE DIMENSIONAL ARRAYS: READING AND WRITING ELEMENT IN ARRAY, SEARCHING, INSERTION, DELETION OF AN ELEMENT FROM AN ARRAY; FINDING THE LARGEST/SMALLEST ELEMENT IN AN ARRAY; TWO DIMENSIONAL ARRAYS, ADDITION, SUBTRACTION, MULTIPLICATION OF TWO MATRICES, TRANSPOSE OF A SQUARE MATRIX;

FUNCTIONS

TOP-DOWN APPROACH OF PROBLEM SOLVING, MODULAR PROGRAMMING AND FUNCTIONS, STANDARD LIBRARY OF C FUNCTIONS, PROTOTYPE OF A FUNCTION: FORMAL PARAMETER LIST, RETURN TYPE, FUNCTION CALL, PASSING ARGUMENTS TO A FUNCTION: CALL BY REFERENCE; CALL BY VALUE, RECURSIVE FUNCTIONS.

STRUCTURES AND UNIONS

STRUCTURE VARIABLES, INITIALIZATION, STRUCTURE ASSIGNMENT, NESTED STRUCTURE, STRUCTURES AND FUNCTIONS, STRUCTURES AND

ARRAYS: ARRAYS OF STRUCTURES, STRUCTURES CONTAINING ARRAYS, UNIONS.

POINTERS

ADDRESS OPERATORS, POINTER TYPE DECLARATION, POINTER ASSIGNMENT, POINTER INITIALIZATION, POINTER ARITHMETIC, FUNCTIONS AND POINTERS, ARRAYS AND POINTERS, POINTER ARRAYS.

FILE PROCESSING

CONCEPT OF FILES, FILE OPENING IN VARIOUS MODES AND CLOSING OF A FILE, READING FROM A FILE, WRITING ONTO A FILE.

SYLLABUS FOR C++ LANGUAGE

BEGINNING WITH C++

WHAT IS C++, ITS APPLICATIONS, ADVANTAGES ETC., DIFFERENCE BETWEEN C AND C++. CREATING C++ SOURCE FILE, EDITING, COMPILING, LINKING, DEBUGGING. ETC.

PROCEDURE ORIENTED LANGUAGE(C) AND OBJECT ORIENTED LANGUAGE. (C++)

PROCEDURE-ORIENTED PROGRAMMING, OBJECT ORIENTED PROGRAMMING (OOP). APPLICATIONS OF OOP, BENEFITS OF OOPS

C++ TOKENS, EXPRESSIONS, AND CONTROL STRUCTURE

TOKENS, C++ KEYWORDS, BASIC DATA TYPES, USER-DEFINED DATA TYPES, DERIVED DATA TYPES, OPERATORS IN C++, REFERENCE VARIABLES, MEMORY MANAGEMENT OPERATORS, MANIPULATORS, OPERATOR OVERLOADING, OPERATOR PRECEDENCE, CONTROL STRUCTURE.

FUNCTIONS IN C++

DIFFERENT FORMS OF FUNCTIONS, FUNCTION PROTOTYPING, CALL BY REFERENCE, INLINE FUNCTIONS, FUNCTION OVERLOADING, FRIEND AND VIRTUAL FUNCTIONS, MATH LIBRARY FUNCTIONS ETC.

CLASSES AND OBJECTS

C STRUCTURE REVISION, DEFINING CLASSES, DEFINING MEMBER FUNCTIONS, DECLARATION OF OBJECTS TO CLASS, ACCESS TO MEMBER VARIABLES FROM OBJECTS ETC, DIFFERENT FORMS OF MEMBER FUNCTIONS DEPENDENCE ON ACCESS SPECIFIERS(I.E.

PRIVATE, PUBLIC, PROTECTED), ARRAY OF OBJECTS, OBJECTS AS FUNCTION ARGUMENTS, FRIENDLY FUNCTION, RETURNING OBJECTS, POINTERS TO MEMBERS, LOCAL CLASSES.

CONSTRUCTOR AND DISTRUCTOR

INTRODUCTION, CONSTRUCTORS, PARAMETRIZED CONSTRUCTORS, MULTIPLE CONSTRUCTORS IN CLASS, DYNAMIC INITIALIZATION OF OBJECTS, DESTRUCTORS.

OPERATOR OVERLOADING AND TYPE CONVERSION

INTRODUCTION, DEFINING OPERATOR OVERLOADING, OVERLOADING - (UNARY, BINARY OPERATORS), OVERLOADING BINARY OPERATORS USING FRIENDS, RULES FOR OVERLOADING OPERATORS, TYPE CONVERSION

INHERITANCE – EXTENDING CLASS

INTRODUCTION, TYPES OF INHERITANCE, SINGLE INHERITANCE, MULTIPLE INHERITANCE, MULTILEVEL INHERITANCE, HIERARCHICAL INHERITANCE, HYBRID INHERITANCE ETC., VIRTUAL BASE CLASS, ABSTRACT CLASS, CONSTRUCTORS IN DERIVED CLASS.

POINTER, VIRTUAL FUNCTIONS, POLYMORPHISM

INTRODUCTION, POINTERS, POINTERS TO OBJECTS, THIS POINTER, POINTERS TO DERIVED CLASS, VIRTUAL FUNCTIONS, PURE VIRTUAL FUNCTIONS ETC.

WORKING WITH FILES

INTRODUCTION, CREATING/ OPENING / CLOSING / DELETING FILES, FILE POINTERS AND THEIR MANIPULATORS, UPDATING FILE RANDOM

ACCESS TO FILE, ERROR HANDLING DURING FILE OPERATIONS,
COMMAND LINE ARGUMENTS. TEMPLATES.

EXCEPTION HANDLING

INTRODUCTION, EXCEPTION HANDLING – THROWING, CATCHING, RE-
THROWING AN EXCEPTION, SPECIFYING EXCEPTIONS ETC.