Government Degree College, Eturnagaram, Telangana

Department of Computer Science & Applications

Course Outcomes: Computer Science

Programming in C:

Learning Outcomes: Upon completion of this course students will acquire knowledge and,

1. Able to implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems.
2. Demonstrate and understanding of computer programming language concepts.
3. Ability to design and develop Computer programs, analyzes, and interprets, the concept of pointers, declarations, initialization, operations on pointers and their usage.

4. Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures.
5. Student must be able to define union and enumeration user defined data types.
6. Develop confidence for self education and ability for life-long learning needed for Computer language.

lab:

1. Develop programming skills using the fundamentals and basics of C Language.
2. Develop programs using the basic elements like control statements, Arrays and Strings Enable effective usage of arrays, structures, functions and pointers.

programming with C++

The learning objectives of this course are:

1. To understand how C++ improves C with object-oriented features.
2. To learn how to write inline functions for efficiency and performance.
3. To learn the syntax and semantics of the C++ programming language.
4. To learn how to design C++ classes for code reuse.
5. To learn how to implement copy constructors and class member functions.
6. To understand the concept of data abstraction and encapsulation.
7. To learn how to overload functions and operators in C++.
8. To learn how containment and inheritance promote code reuse in C++.
9. To learn how inheritance and virtual functions implement dynamic binding with polymorphism.

10. To learn how to design and implement generic classes with C++ templates.
11. To learn how to use exception handling in C++ programs.

Data structures using C++

Upon completion of this course students will

1. Understand the concept of Dynamic memory management, data types, algorithms, Big O notation.
2. Understand basic data structures such as arrays, linked lists, stacks and queues.
3. Describe the hash function and concepts of collision and its resolution methods
4. Solve problem involving graphs, trees and heaps
5. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

DBMS

Upon completion of this course students

1. Will be able to comprehend and evaluate the role of database management systems in information technology applications within organizations.
2. Will be able to design and implement properly structured databases that match the standards based under realistic constraints and conditions.
3. Will be able to comprehend how to use Structured Query Language (SQL) to define and manipulate database information
4. Will be able to describe and develop Relational Algebra and Relational Calculus queries
5. Will be able to explain the principle of transaction management design.
6. Will be able to work in a group on the design, and implementation of a database system project.

DBMS lab:

1. Experiences how to apply the theoretical information in database management systems area into practice to model and solve an engineering problem.
2. Experiences how to use SQL language for constructing and utilizing a database application.
3. Experiences how to manage data by establishing a database connection over the current programming languages.
4. Experiences on how to implement an application using a database management system.

Programming in JAVA
Upon completion of this course students will,

1. have knowledge of the structure and model of the Java programming language, (knowledge)
2. Use the Java programming language for various programming technologies (understanding)
3. Develop software in the Java programming language, (application)
4. Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements (analysis)

5. Propose the use of certain technologies by implementing them in the Java programming language to solve the given problem (synthesis)
6. Choose an engineering approach to solving problems, starting from the acquired knowledge of programming and knowledge of operating systems. (evaluation)

Lab:

1. Write, compile, and execute Java programs that include basic data types and control flow constructs using J2SE
2. Write, compile and execute Java programs using object oriented class structures with parameters, constructors, and utility and calculations methods, including inheritance, test classes and exception handling.
3. Write, compile, and execute Java programs using arrays and recursion.

4. Write, compile, and execute Java programs manipulating Strings and text documents.
5. Write, compile, execute Java programs that include GUIs and event driven programming.
6. Write a final project that may be selected from among the following: applets for inclusion in web pages, applets to access enterprise data bases in robust, enterprise three level applications.

Operating systems:

1. Understand the basics of operating systems like kernel, shell, types and views of operating systems
2. Describe the various CPU scheduling algorithms and remove deadlocks.
3. Explain various memory management techniques and concept of thrashing
4. Use disk management and disk scheduling algorithms for better utilization of external memory.
5. Recognize file system interface, protection and security mechanisms.
6. Explain the various features of distributed OS like Unix, Linux, windows etc.

Program Outcomes: Computer Applicatons

After successful completion of three year degree program in Computer Applications a student should be able to:
PO1: Get employment in IT fields, Software, Banks, Companies, BPOs and KPOs.
 PO2:Posses competent skills in areas like MIS Databases, E-Commerce and IT.
PO3:Develop a program for system based applications and web page creation for business enterprises.
PSO4:To make students familiar with computer environment and operating systems.
PSO5:To make students aware of accounting packages like tally, and develop skill among students in applications of internet in commerce education
PSO6: Equip with skills and knowledge to excel in their future careers
PSO7: Enter master programs like M.Com, MBA and professional programmes like C.A, CMA, C.S, etc.

Program Specific Outcomes:

PSO1:Understand the concepts of Computer application operations.
 PSO2:Apply the current techniques, skills, and tools necessary for computing practices.
 PSO3:Ability to design, implement domain knowledge for computer programming.
PSO4: The students will acquire the knowledge, skill in different areas of communication, decision making, innovations and problem solving in day to day business activities.
PSO5: Understand the basic concepts and functions of accounting, trade and computer software.

Course Outcomes: Computer Applications

FUNDAMENTALS OF INFORMATION TECHNOLOGY

1. Describes the computer and its general features
2. will be able to understand basic computer hardware
3. Defines hardware and software concepts
4. Defines input and output units of Computer
5. Knows the terms of motherboard,CPU, RAM, ROM, BIOS, CMOS and can express with their own words.. Identifies and explains computers hard wares
6. describes the communication units of computers.

Lab outcomes:

1. Design a document using MS_WORD.
2. Demonstrate and compute the data using Spread Sheet.
3. Create, edit, save presentations, and Format presentations

Programming in C And C++

1. Understanding a functional hierarchical code organization.
2. Ability to define and manage data structures based on problem subject domain.

3. Ability to work with textual information, characters and strings.
4. Ability to work with arrays of complex objects.
5. Understanding a concept of object thinking within the framework of functional model.
6. Ability to handle possible errors during program execution.

Relational Database Management System

1. Describe DBMS architecture, physical and logical database designs, database modeling, relational, hierarchical and network models.
2. Identify basic database storage structures and access techniques such as file organizations, indexing methods including B-tree, and hashing.
3. Learn and apply Structured query language (SQL) for database definition and database manipulation.

4. Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
5. Understand various transaction processing, concurrency control mechanisms and database protection mechanisms.

lab

1. Experiences how to apply the theoretical information in database management systems area into practice to model and solve an engineering problem.
2. Experiences how to use SQL language for constructing and utilizing a database application.
3. Experiences how to manage data by establishing a database connection over the current programming languages.
4. Experiences on how to implement an application using a database management system.

Web Technologies

After completing the Course, students will

1. Explain the history of the internet and related internet concepts that are vital in understanding web development.
2. Discuss the insights of internet programming and implement complete application over the web.
3. Demonstrate the important HTML tags for designing static pages and separate design from content using Cascading Style sheet.
4. Utilize the concepts of JavaScript and Java
5. Use web application development software tools i.e. PHP and XML etc. and identify the environments currently available on the market to design web sites.

lab:

1. Design and implement dynamic websites with good artistic sense of designing
2. Have a Good grounding of Web Application Terminologies, Internet Tools, E – Commerce and other web services

Ecommerce Course outcome:

After completing the Course, students will
1. Analyze the impact of E-commerce on business models and strategy.
2. Describe the major types of E-commerce.
3. Explain the process that should be followed in building an E-commerce presence.
4. Identify the key security threats in the E-commerce environment.
5. Describe how procurement and supply chains relate to B2B E-commerce.
6. Analyze real business cases regarding their e-business strategies and transformation processes and choices.

Object Oriented programming language

After completing the Course, students will learn:

1. Articulate the principles of object-oriented problem solving and programming.

2. Outline the essential features and elements of the C++ programming language.
3. Explain programming fundamentals, including statement and control flow and recursion.
4. Apply the concepts of class, method, constructor, instance, data abstraction, function abstraction, inheritance, overriding, overloading, and polymorphism.
5. Program with basic data structures using array
6. Program using objects and data abstraction, class, and methods in function abstraction.

Lab

1. Analyze, write, debug, and test basic C++ codes using the approaches introduced in the course.
2. Analyze problems and implement simple C++ applications using an object-oriented approach.