

Department of Information Technology (Under Graduate Course)

Program Outcome	
Semester – I	
Course name	Course Outcome
Imperative Programming (USIT101)	<ul style="list-style-type: none"> • C provides a basic foundation for studying higher level programming languages.
	<ul style="list-style-type: none"> • It develops the ability to analyze a problem, develop an algorithm & flowchart to solve it which develops their logical thinking
	To use simple input and output statements, Conditional operation, Control statements, & Looping.
	<ul style="list-style-type: none"> • To use Pointers and pointer operators.
	<ul style="list-style-type: none"> • It familiarizes the basic aspects of arrays, structure and file handling.
Digital Electronics (USIT102)	<ul style="list-style-type: none"> • It creates an understanding of how circuits work inside any digital device
	<ul style="list-style-type: none"> • Understand the concepts of various components to design stable digital circuits.
	<ul style="list-style-type: none"> • Students get knowledge of different types of number system, their conversion and arithmetic operations.
	<ul style="list-style-type: none"> • Minimize the Boolean expression using Boolean algebra and design it using logic gates.
	<ul style="list-style-type: none"> • Analyze and design combinational and sequential circuit.
Operating Systems (USIT103)	<ul style="list-style-type: none"> • Students understand the theory and logic behind the design and construction of operating systems.
	<ul style="list-style-type: none"> • They examine the algorithms used for various operations on operating systems.
	<ul style="list-style-type: none"> • Differentiate between various operating systems functionalities in terms of performance.
	<ul style="list-style-type: none"> • Know the problems in the design of operating system and study the probable solutions.
	<ul style="list-style-type: none"> • Become aware of the issues in the management of resources like processor, memory and input-output.
	<ul style="list-style-type: none"> • To understand the main components of an OS & their functions.
	<ul style="list-style-type: none"> • To study the process management and scheduling.
	<ul style="list-style-type: none"> • To understand various issues in Inter Process Communication (IPC) and the role of OS in IPC.
	<ul style="list-style-type: none"> • To understand the concepts and implementation Memory management policies and virtual memory.
	<ul style="list-style-type: none"> • To understand the working of an OS as a resource manager, file system manager, process manager, memory manager and I/O manager and methods used to implement the different parts of OS
Discrete Mathematics (USIT104)	<ul style="list-style-type: none"> • To provide overview of theory of discrete objects, starting with relations and partially ordered sets.
	<ul style="list-style-type: none"> • Study about recurrence relations, generating function and operations on them.

		<ul style="list-style-type: none"> • Give an understanding of graphs and trees, which are widely used in software.
Communication Skills (USIT105)		<ul style="list-style-type: none"> • To understand and apply knowledge of human communication and language processes e.g., interpersonal, intrapersonal, small group, organizational, media, gender, family, intercultural communication, technologically mediated communication, etc. from multiple angles.
		<ul style="list-style-type: none"> • Discuss the importance of effective communication in business
		<ul style="list-style-type: none"> • Differentiate between different methods of communication
		<ul style="list-style-type: none"> • Discuss the importance of ethical communication and communicate ethically.
		<ul style="list-style-type: none"> • Demonstrate critical and innovative thinking.
		<ul style="list-style-type: none"> • Display competence in oral, written, and visual communication.
		<ul style="list-style-type: none"> • Show an understanding of opportunities in the field of communication.
	Semester – II	
Object oriented Programming (USIT201)		<ul style="list-style-type: none"> • Designed methodically to help students master the Object Oriented Programming skills in C++.
		<ul style="list-style-type: none"> • It covers basic topics like input/output streams, namespaces, classes and objects, constructors, function overloading, function overriding through to advanced topics such as Inheritance, Polymorphism, Templates, Exception handling, File handling etc.
		<ul style="list-style-type: none"> • It works as basic building block for learning other programming languages like Java, web programming, python programming etc.
Microprocessor Architecture (USIT202)		<ul style="list-style-type: none"> • Learn the fundamentals of assembly level programming of microprocessors.
		<ul style="list-style-type: none"> • Develop the assembly level programming using 8085 instruction set.
		<ul style="list-style-type: none"> • Analyze abstract problems and apply a combination of hardware and software to address the problem.
		<ul style="list-style-type: none"> • Understanding different types of processors available in the market.
Web Programming (USIT203)		<ul style="list-style-type: none"> • Design a basic web site using HTML and CSS to demonstrate responsive web design.
		<ul style="list-style-type: none"> • Implement dynamic web pages with validation using JavaScript objects by applying different event handling mechanism.
		<ul style="list-style-type: none"> • Develop simple web application using server side PHP programming and
Numerical and Statistical Methods (USIT204)		<ul style="list-style-type: none"> • To develop the student's ability to solve numerical and quantitative issues in business
		<ul style="list-style-type: none"> • To enable the use of statistical, graphical and algebraic techniques.
		<ul style="list-style-type: none"> • To have a proper understanding of Statistical applications in Economics and Management
Green Computing	<input type="checkbox"/>	<ul style="list-style-type: none"> • It is used for Green environment.
(USIT205)		

Semester – III

Python Programming (USIT301)	<ul style="list-style-type: none"> ● Basic of Python programming ● Describe Math functions, String, List, Tuples, & Dictionaries in Python. <input type="checkbox"/> Explain how to design GUI applications in python and evaluate different database operations. <input type="checkbox"/> Design and develop client server network applications using python.
Data Structures (USIT302)	<ul style="list-style-type: none"> <input type="checkbox"/> Select appropriate data structures as applied to specified problem definition. <input type="checkbox"/> Implement operations like searching, insertion, and deletion, traversing mechanism on various data structures. <input type="checkbox"/> Students will be able to implement linear and Non-Linear data structures. <input type="checkbox"/> Implement appropriate sorting/searching technique for given problem. <input type="checkbox"/> Design advance data structure using nonlinear data structure. <input type="checkbox"/> Determine and analyze the complexity of given Algorithms
Computer Networks (USIT303)	<ul style="list-style-type: none"> <input type="checkbox"/> Familiarize with the basic protocols of computer networks, and how they can be used to assist in network design and implementation. <input type="checkbox"/> Understand the concept of subnetting and routing mechanisms in network configuration. <input type="checkbox"/> Demonstrate and measure different network scenarios and their performance behavior. <input type="checkbox"/> Design and setup a simple organization network using packet tracer simulator.
	<ul style="list-style-type: none"> <input type="checkbox"/> To understand the characteristics, architecture of database approach, describe the components, major functions of a database system <input type="checkbox"/> Compare and contrast appropriate data models, including concepts in modeling notation and how they would be used. <input type="checkbox"/> Determine the functional dependency between two or more attributes, strategy.
	<ul style="list-style-type: none"> <input type="checkbox"/> Understand transaction management, concurrency control techniques and data recovery methods. <input type="checkbox"/> Explain the techniques used for data fragmentation, replication, evaluate simple strategies for executing a distributed query and explain how the two-phase commit protocol is used to deal with committing a transaction that accesses databases stored on multiple nodes. <input type="checkbox"/> Familiarize with the related areas in databases and gaining familiarity with other popular databases used in the industry.
Applied Mathematics (USIT305)	<ul style="list-style-type: none"> <input type="checkbox"/> Apply the matrix techniques to reduce the quadratic forms to canonical forms, finding solutions of systems of linear equations in the different areas of Linear Algebra. <input type="checkbox"/> Apply various methods of the differential equation to solve first-order linear ODE and its applications to various fields. <input type="checkbox"/> Apply ordinary differential equations to model engineering phenomena such as electrical circuits, forced oscillation of mass spring and elementary heat transfer. <input type="checkbox"/> Apply Laplace transform to determine general or complete solutions to linear ODE applications.

	<p>and describe properties of normalization</p> <ul style="list-style-type: none"><input type="checkbox"/> Explain the use of integrating OO properties with relational modeling<input type="checkbox"/> Give examples of the application of primary, secondary, and clustering indexes, explain the theory and application of internal and external hashing techniques.<input type="checkbox"/> Understand a set of query processing strategies and select the optimal

Semester – IV

<p>Core Java (USIT401)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> To understand the importance of Classes & objects along with constructors, Arrays and Vectors. <input type="checkbox"/> Discuss the principles of inheritance, interface and packages and demonstrate through problem analysis assignments how they relate to the design of methods, abstract classes and interfaces and packages. <input type="checkbox"/> To understand importance of Multi-threading & different exception handling mechanisms. <input type="checkbox"/> To learn experience of designing, implementing, testing, and debugging graphical user interfaces in Java using applet and AWT that respond to different user events.
<p>Introduction to Embedded Systems (USIT402)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the embedded system concepts and architecture of embedded systems <input type="checkbox"/> Understand the concepts of Microcontroller and microprocessor architecture. <input type="checkbox"/> Describe the architecture of 8051 microcontroller and write embedded program for 8051 microcontroller. <input type="checkbox"/> Design the interfacing for 8051 microcontroller. <input type="checkbox"/> Select elements for an embedded systems tool
<p>Computer Oriented Statistical Techniques (USIT403)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Enable learners to know descriptive statistical concepts <input type="checkbox"/> Enable study of probability concept required for computer learners <input type="checkbox"/>
<p>Software Engineering</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Knowledge of basic SW engineering methods and practices, and their appropriate application.

(USIT404)		<ul style="list-style-type: none"> <input type="checkbox"/> Describe software engineering layered technology and Process frame work. <input type="checkbox"/> A general understanding of software process models such as the waterfall and evolutionary models. <input type="checkbox"/> Understanding of software requirements and the SRS documents. <input type="checkbox"/> Understanding of the role of project management including planning, scheduling, risk management, etc. <input type="checkbox"/> Describe data models, object models, context models and behavioral models. <input type="checkbox"/> Understanding of different software architectural styles. <input type="checkbox"/> Understanding of implementation issues such as modularity and coding standards. <input type="checkbox"/> Understanding of approaches to verification and validation including static analysis, and reviews.
Computer Graphics and Animation (USIT405)		<ul style="list-style-type: none"> <input type="checkbox"/> To list the basic concepts used in computer graphics. <input type="checkbox"/> To implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping. <input type="checkbox"/> To describe the importance of viewing and projections. <input type="checkbox"/> To define the fundamentals of animation, virtual reality and its related technologies. <input type="checkbox"/> To understand a typical graphics pipeline <input type="checkbox"/> To design an application with the principles of virtual reality
Semester – V		
Software Project		<ul style="list-style-type: none"> • It helps in various software application domains and different process model used in software development. • Convert the requirements model into the design model and demonstrate use of software and user interface design principles. • Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them. • Justify role of SDLC in Software Project Development and they can evaluate importance of Software Engineering in PLC.
Internet of (USIT502)		<ul style="list-style-type: none"> • Define concepts of IOT. • Identify different technology used in IOT. • Apply IOT to different applications. • Design and develop smart city in IOT. • Analysis and evaluate the data received through sensors in IOT.
Advanced Web (USIT503)		<ul style="list-style-type: none"> • Study about MS.NET framework. • Use the features of .NET Framework along with the features of C#. • Create Web forms and use Web controls. • Design the web pages using Styles, Themes, and Master Pages.

Artificial		<ul style="list-style-type: none"> • Make use of ADO .Net for Application and Database Connectivity. • Use AJAX with C# and ASP .NET for improving performance of Web Application. <p>-----</p> <ul style="list-style-type: none"> • Demonstrate knowledge of the building blocks of AI as presented in terms of intelligent agents. • Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing. <ul style="list-style-type: none"> •Formulate and solve problems with uncertain information using Bayesian approaches. <ul style="list-style-type: none"> •Apply concept Natural Language processing to problems leading to understanding of cognitive computing.
Enterprise JAVA		<ul style="list-style-type: none"> • Learn Advanced concept java programming with database connectivity. <ul style="list-style-type: none"> •Design and develop platform independent applications using a variety of component based frameworks •Able to implement the concepts of Hibernate, XML& EJB for building enterprise applications.
Semester – VI		
Software Quality		<ul style="list-style-type: none"> • Study of Software Project Management. • Project Evaluation and Programme Management along with Project Planning. • Implement the cost of Software and its process. • Understand verification and validation processes of testing to identify when to begin testing during the software development lifecycle. <p>-----</p> <ul style="list-style-type: none"> •Develop various communications networks . <ul style="list-style-type: none"> •Distinguish and explain the concepts of: authentication; authorization, and attacks. •Study the function of a firewall, and how it keeps a computer secure and safe from viruses and prepare security plan for organization.
Security in (USIT602)		
Business Intelligence (USIT603)		<ul style="list-style-type: none"> • Demonstrate concepts and various mathematical model of Business Intelligence • To demonstrate concept of decision making process and decision support system • Demonstrate an understanding of the importance of data mining and the principles of business intelligence

	<ul style="list-style-type: none"> • To demonstrate various applications of business intelligence and identification of good operating practices. • To demonstrate the use of logistics and production models. • To demonstrate the knowledge management and role of people in knowledge management.
<p>Geographic Information Systems (USIT604)</p>	<ul style="list-style-type: none"> • Study of GIS tools to create maps. • Demonstrate confidence in undertaking new (unfamiliar) analysis using GIS, troubleshoot problems in GIS. • Apply mathematical concepts of • Apply mathematical concepts, including statistical methods.
<p>IT Service (USIT606)</p>	<ul style="list-style-type: none"> • Study Key principles of IT service management. • Outline the important processes of IT service management. • Demonstrate the comprehension of a framework of IT service management. • Discuss the roles involved in IT service management. • Draft a component in an IT service management agreement.