Course Outcomes

Course Name: Engineering Mathematics   15MAT11

C101.1	Use partial derivatives to calculate rates of change of multivariate functions.
C101.2	Analyze position, velocity, and acceleration in two or three dimensions using the calculus of vector valued functions.
C101.3	Recognize and solve first-order ordinary differential equations, Newton's law of cooling
C101.4	Use matrices techniques for solving systems of linear equations in the different areas of Linear Algebra.

Course Name: Engineering Physics 15PHY12/22

C102.1	Learn and understand more about basic principles and to develop problem solving skills and implementation in technology.
C102.2	Gain Knowledge about Modern physics and quantum mechanics will update the basic concepts to implement the skills.
C102.3	Study of material properties and their applications is the prime role to understand and use in engineering applications and studies.
C102.4	Study Lasers and Optical fibers and its applications are to import knowledge and to develop skills and to use modern instruments in the engineering applications.
C102.5	Understand Crystal structure and applications are to boost the technical skills and its applications.
C102.6	Expose shock waves concept and its applications will bring latest technology to the students at the first year level to develop research orientation programs at higher semester level.
C102.7	Understand basic concepts of nano science and technology.

Course Name: Elements of Civil Engineering and Mechanics 15CIV13/23

C103.1	Know basics of Civil Engineering, its scope of study, knowledge about Roads, Bridges and Dams
C103.2	Comprehend the action of Forces, Moments and other loads on systems of rigid bodies
C103.3	Compute the reactive forces and the effects that develop as a result of the external loads
C103.4	Locate the Centroid and compute the Moment of Inertia of regular cross sections.
C103.5	Express the relationship between the motion of bodies and
C103.6	Equipped to pursue studies in allied courses in Mechanics.

Course Name: Computer Aided Engineering Drawing 15CED14/24

C104.1	Students will be able to demonstrate the usage of CAD software.
C104.2	Students will be able to visualize and draw Orthographic projections, Sections of solids and Isometric views of solids.
C104.3	Students are evaluated for their ability in applying various concepts to solve practical problems related to engineering drawing.

Course Name: Basic Electrical Engineering 15ELE15/25

C105.1	To predict the behaviour of electrical and magnetic circuits.
C105.2	Select the type of generator / motor required for a particular application.
C105.3	Realize the requirement of transformers in transmission and distribution of electric power and other applications.
C105.4	Practice Electrical Safety Rules & standards.
C105.5	To function on multi-disciplinary teams.

Course Name: Engineering Mathematics   15MAT21

C111.1	Solve differential equations of electrical circuits, forced oscillation of mass spring and elementary heat transfer.
C111.2	Solve partial differential equations fluid mechanics, electromagnetic theory and heat transfer.
C111.3	Evaluate double and triple integrals to find area , volume, mass and moment of inertia of plane and solid region.
C111.4	Use curl and divergence of a vector valued functions in various applications of electricity, magnetism and fluid flows.
C111.5	Use Laplace transforms to determine general or complete solutions to linear ODE

Course Name: Engineering Chemistry 15CHE12/22

C112.1	Electrochemical and concentration cells. Classical & modern batteries and fuel cells.
C112.2	Causes & effects of corrosion of metals and control of corrosion. Modification of surface properties of metals to develop resistance to corrosion, wear, tear, impact etc. by electroplating and electro less plating.
C112.3	Production & consumption of energy for industrialization of country and living standards of people. Utilization of solar energy for different useful forms of energy.
C112.4	Replacement of conventional materials by polymers for various applications.
C112.5	Boiler troubles; sewage treatment and desalination of sea water, and
C112.6	Over viewing of synthesis, properties and applications of nano materials

Course Name: Programming in C and Data Structures 15PCD13/23

C113.1	Achieve Knowledge of design and development of C problem solving skills.
C113.2	Understand the basic principles of Programming in C language
C113.3	Design and develop modular programming skills.
C113.4	Effective utilization of memory using pointer technology
C113.5	Understands the basic concepts of pointers and data structures.

Course Name: Elements of Mechanical Engineering 15EME14/24

C114.1	Various Energy sources, Boilers, Prime movers such as turbines and IC engines, refrigeration and air-conditioning systems
C114.2	Metal removal process using Lathe, drilling, Milling Robotics and Automation.
C114.3	Fair understanding of application and usage of various engineering materials.

Course Name: Basic Electronics 15ELN15 / 25

C115.1	Appreciate the significance of electronics in different applications,
C115.2	Understand the applications of diode in rectifiers, filter circuits and wave shaping,
C115.3	Apply the concept of diode in rectifiers, filters circuits
C115.4	Design simple circuits like amplifiers (inverting and non inverting), comparators, adders, integrator and differentiator using OPAMPS
C115.5	Compile the different building blocks in digital electronics using logic gates and implement simple logic function using basic universal gates
C115.6	Understand the functioning of a communication system, and different modulation technologies
C115.7	Understand the basic principles of different types of Transuducers.

Course Name: Engineering Mathematics 15MAT31

C201.1	Use of periodic signals and Fourier series to analyse circuits
C201.2	Explain the general linear system theory for continuous-time signals and systems using the Fourier Transform
C201.3	Analyse discrete-time systems using convolution and the z-transform
C201.4	Use appropriate numerical methods to solve algebraic and transcendental equations and also to calculate a definite integral
C201.5	Use curl and divergence of a vector function in three dimensions, as well as apply the Green's Theorem, Divergence Theorem and Stokes' theorem in various applications
C201.6	Solve the simple problem of the calculus of variations

Course Name: Analog and Digital Electronics 15CS32

C202.1	Explain the operation of JFETs and MOSFETs , Operational Amplifier circuits and their application, Design of Counters, Registers and A/D & D/A converters
C202.2	Explain Combinational Logic, Simplification Techniques using Karnaugh Maps, Quine McClusky technique.
C202.3	Demonstrate Operation of Decoders, Encoders, Multiplexers, Adders and Subtractors, working of Latches, Flip-Flops, Designing Registers, Counters, A/D and D/A Converters
C202.4	Design of Counters, Registers and A/D & D/A converters

Course Name: Data Structures and Applications 15CS33

C203.1	Use different types of data structures, operations and algorithms
C203.2	Apply searching and sorting operations on files
C203.3	Use stack, Queue, Lists, Trees and Graphs in problem solving
C203.4	Implement all data structures in a high-level language for problem solving.

Course Name: Computer Organization 15CS34

C204.1	Explain the basic organization of a computer system..
C204.2	• Demonstrate functioning of different sub systems, such as processor, Input/output,and memory
C204.3	• Illustrate hardwired control and micro programmed control. pipelining, embedded and other computing systems.
C204.4	• Design and analyse simple arithmetic and logical units.

Course Name: Unix and Shell Programming 15CS35

C205.1	Explain UNIX system and use different commands.
C205.2	Write Shell scripts for certain functions on different subsystems.
C205.3	Demonstrate use of editors and Perl script writing

Course Name: Discrete Mathematical Structures 15CS36

C206.1	Use propositional and predicate logic in knowledge representation and truth verification.
C206.2	Demonstrate the application of discrete structures in different fields of computer science.
C206.3	Solve problems using recurrence relations and generating functions
C206.4	Application of different mathematical proofs techniques in proving theorems in the courses.

C206.5	Compare graphs, trees and their applications.

Course Name: Engineering Mathematics - IV 15MAT41

C211.1	Use appropriate numerical methods to solve first and second order ordinary differential equations.
C211.2	Use Bessel's and Legendre's function which often arises when a problem possesses axial and spherical symmetry, such as in quantum mechanics, electromagnetic theory, hydrodynamics and heat conduction.
C211.3	State and prove Cauchy's theorem and its consequences including Cauchy's integral formula.
C211.4	Compute residues and apply the residue theorem to evaluate integrals.
C211.5	Analyze, interpret, and evaluate scientific hypotheses and theories using rigorous statistical methods.

Course Name: Software Engineering 15CS42

C212.1	Design a software system, component, or process to meet desired needs within realistic constraints.
C212.2	Assess professional and ethical responsibility
C212.3	Function on multi-disciplinary teams
C212.4	Use the techniques, skills, and modern engineering tools necessary for engineering practice
C212.5	Analyse, design, implement, verify, validate, implement, apply, and maintain software systems or parts of software systems.

Course Name: Design And Analysis Of Algorithms 15CS43

C213.1	Describe computational solution to well known problems like searching, sorting etc.
C213.2	Estimate the computational complexity of different algorithms.
C213.3	Devise an algorithm using appropriate design strategies for problem solving.

Course Name: Microprocessors And Microcontrollers15CS44

C214.1	Differentiate between microprocessors and microcontrollers
C214.2	Design and develop assembly language code to solve problems
C214.3	Gain the knowledge for interfacing various devices to x86 family and ARM processor
C214.4	Demonstrate design of interrupt routines for interfacing devices

Course Name: Object Oriented Concepts 15CS45

C215.1	Explain the object-oriented concepts and JAVA
C215.2	Develop computer programs to solve real world problems in Java.
C215.3	Develop simple GUI interfaces for a computer program to interact with users, and to understand the event-based GUI handling principles using Applets and

	swings.

Course Name: Data Communication15CS46

C216.1	Illustrate basic computer network technology.
C216.2	Identify the different types of network topologies and protocols.
C216.3	Enumerate the layers of the OSI model and TCP/IP functions of each layer.
C216.4	Make out the different types of network devices and their functions within a network
C216.5	Demonstrate the skills of subnetting and routing mechanisms.

Course Name: Management and Entrepreneurship for IT Industry 15CS51

C301.1	Define management, organization, entrepreneur, planning, staffing, ERP and outline their importance in entrepreneurship
C301.2	Utilize the resources available effectively through ERP
C301.3	Make use of IPRs and institutional support in entrepreneurship

Course Name: Computer Networks 15CS52

C302.1	Explain principles of application layer protocols
C302.2	Recognize transport layer services and infer UDP and TCP protocols
C302.3	Classify routers, IP and Routing Algorithms in network layer
C302.4	Understand the Wireless and Mobile Networks covering IEEE 802.11 Standard
C302.5	Describe Multimedia Networking and Network Management

Course Name: Database Management System 15CS53

C303.1	Identify, analyze and define database objects, enforce integrity constraints on a database using RDBMS.
C303.2	Use Structured Query Language (SQL) for database manipulation.
C303.3	Design and build simple database systems
C303.4	Develop application to interact with databases.

Course Name: Automata Theory and Computability 15CS54

C304.1	Introduce core concepts in Automata and Theory of Computation
C304.2	Identify different Formal language Classes and their Relationships
C304.3	Design Grammars and Recognizers for different formal languages
C304.4	Prove or disprove theorems in automata theory using their properties
C304.5	Determine the decidability and intractability of Computational problems

Course Name: Object Oriented Modelling and Design 15CS551

C3051.1	Describe the concepts of object-oriented and basic class modelling.
C3051.2	Draw class diagrams, sequence diagrams and interaction diagrams to solve difficulties.
C3051.3	Choose and apply a befitting design pattern for the given problem.

Course Name:Cloud Computing 15CS565

C3065.1	Explain the concepts and terminologies of cloud computing
C3065.2	Demonstrate cloud frameworks and technologies
C3065.3	Define data intensive computing
C3065.4	Demonstrate cloud applications

Course Name: Cryptography, Network Security and Cyber Law 15CS61

C311.1	Discuss cryptography and its need to various applications
C311.2	Design and develop simple cryptography algorithms
C311.3	Understand cyber security and need cyber Law

Course Name:File Structures15IS62

C312.1	Choose appropriate file structure for storage representation.
C312.2	Identify a suitable sorting technique to arrange the data.
C312.3	Select suitable indexing and hashing techniques for better performance to a given problem. Design and implement algorithms for 2D graphics primitives and attributes.
C312.4	Decide suitable hardware and software for developing graphics packages using OpenGL.

Course Name: Software Testing15IS63

C313.1	Derive test cases for any given problem
C313.2	Compare the different testing techniques
C313.3	Classify the problem into suitable testing model
C313.4	Apply the appropriate technique for the design of flow graph.
C313.5	Create appropriate document for the software artefact.

Course Name: Operating Systems 15CS64

C314.1	Demonstrate need for OS and different types of OS
C314.2	Apply suitable techniques for management of different resources

C314.3	Use processor, memory, storage and file system commands
C314.4	Realize the different concepts of OS in platform of usage through case studies

Course Name: Operations Research 15CS653

C3153.1	Select and apply optimization techniques for various problems.
C3153.2	Model the given problem as transportation and assignment problem and solve.
C3153.3	Apply game theory for decision support system.

Course Name: Mobile Application Development 15CS661

C3161.1	Create, test and debug Android application by setting up Android development environment
C3161.2	Implement adaptive, responsive user interfaces that work across a wide range of devices.
C3161.3	Infer long running tasks and background work in Android applications
C3161.4	Demonstrate methods in storing, sharing and retrieving data in Android applications
C3161.5	Analyse performance of android applications and understand the role of permissions and security
C3161.6	Describe the steps involved in publishing Android application to share with the world

Course Name: Web Technology and its applications15CS71

C401.1	Adapt HTML and CSS syntax and semantics to build web pages.
C401.2	Construct and visually format tables and forms using HTML and CSS
C401.3	Develop Client-Side Scripts using JavaScript and Server-Side Scripts using PHP to generate and display the contents dynamically.
C401.4	Appraise the principles of object oriented development using PHP
C401.5	Inspect JavaScript frameworks like jQuery and Backbone which facilitates developer to focus on core features.

Course Name: Software Architecture and Design Patterns 15IS72

C402.1	Design and implement codes with higher performance and lower complexity
C402.2	Be aware of code qualities needed to keep code flexible
C402.3	Experience core design principles and be able to assess the quality of a design with respect to these principles.
C402.4	Capable of applying these principles in the design of object oriented systems.
C402.5	Demonstrate an understanding of a range of design patterns. Be capable of comprehending a design presented using this vocabulary.
C402.6	Be able to select and apply suitable patterns in specific contexts

Course Name: Natural Language Processing 15CS741

C4041.1	Analyze the natural language text.
C4041.2	Generate the natural language.
C4041.3	Do Text mining.
C4041.4	Apply information retrieval techniques.

Course Name: Information Management System 15IS753

C4053.1	Identify key challenges in managing information and analyze different storage networking technologies and virtualization
C4053.2	Explain components and the implementation of NAS
C4053.3	Describe CAS architecture and types of archives and forms of virtualization
C4053.4	Illustrate the storage infrastructure and management activities

Course Name: Internet of Things and Applications 15CS81

C411.1	Interpret the impact and challenges posed by IoT networks leading to new architectural models.
C411.2	Compare and contrast the deployment of smart objects and the technologies to connect them to network.
C411.3	Appraise the role of IoT protocols for efficient network communication.
C411.4	Elaborate the need for Data Analytics and Security in IoT.
C411.5	Illustrate different sensor technologies for sensing real world entities and identify the applications of IoT in Industry

Course Name: Big Data Analytics 15CS82

C412.1	Master the concepts of HDFS and MapReduce framework
C412.2	Investigate Hadoop related tools for Big Data Analytics and perform basic Hadoop Administration
C412.3	Recognize the role of Business Intelligence, Data warehousing and Visualization in decision making
C412.4	Infer the importance of core data mining techniques for data analytics
C412.5	Compare and contrast different Text Mining Techniques

Course Name: System Modeling and Simulation 15CS834

C4134.1	Explain the system concept and apply functional modeling method to model theactivities of a static system
C4134.2	Describe the behavior of a dynamic system and create an analogous model for adynamic system;
C4134.3	Simulate the operation of a dynamic system and make improvement according to the simulation results.