SIR C.R.REDDY COLLEGE OF ENGINEERING
ELURU-534007, WEST GODAVARI DIST, A P., INDIA
(Approved by AICTE, New Delhi)
Phone no: 08812-230840, 2300656 Fax: 08812-224193
Visit us at http://www.sircrrengg.ac.in
DEPARTMENT OF INFORMATION TECHNOLOGY

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
English -1	**C111.1**	Maximize the practice of four language learning skills- listening, speaking, reading and writing (LSRW Skills)
	C111.2	Analyse basic concepts of grammar and usage
	C111.3	Build vocabulary to facilitate good communication
	C111.4	Develop acceptable personality traits to become leaders
Mathematics-1	**C112.1**	Solve the Differential Equations of first and higher order related to various engineering applications
	C112.2	Apply Laplace Transforms to solve linear differential equations with constant coefficients
	C112.3	Apply the knowledge of partial differentiation techniques to solve physical problem like maxima and minima of functions
	C112.4	Solve the first and higher order of partial differential equations and apply to various engineering problems
Mathematics-2	**C113.1**	Solve algebraic and transcendental equations by using Numerical methods
	C113.2	Apply the concepts of interpolation to numerical integration and solve the differential equations by using numerical methods
	C113.3	Compute Fourier series of the periodic function and apply Fourier transform to a range of non-periodic function
	C113.4	Solve the wave, heat and Laplace equations
Applied Physics	**C114.1**	Apply the knowledge of different phenomena of light in daily life
	C114.2	Characterize the coherent sources over ordinary sources and understand the polarization phenomenon, Lasers and their practical implications
	C114.3	Able to differentiate the properties of the materials based on the response in electric and magnetic fields
	C114.4	Understand the electron transport mechanism in metals based on Quantum mechanics
	C114.5	Gain the basic knowledge in semiconductor physics
Computer Programming	**C115.1**	Able to understand the fundamental concepts of computers, C language constructs, functions, Homogeneous and heterogeneous data types, pointers and file system

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Computer Programming	**C115.2**	Able to decompose a given problem into functions and to develop modular reusable code
	C115.3	Able to apply the concepts of Homogeneous and heterogeneous data types, pointers and file system for solving mathematical and engineering problems
	C115.4	Able to analyze the concepts to choose appropriate C constructs for a given scenario
Engineering Drawing	**C116.1**	Construct polygons and curves used in engineering applications and scales
	C116.2	Construct scales, Apply concept of orthographic projection to project points and lines parallel to one reference planes
	C116.3	Draw orthographic projections of lines inclined to both the reference planes
	C116.4	Draw orthographic projections of planes inclined to both the reference planes
	C116.5	Draw orthographic projections of regular solids inclined to both the reference planes
	C116.6	Represent objects in 3D view through isometric views from orthographic views and viceversa
English Communication Skill Lab-1	**C117.1**	Recognize the sounds of English with the help of audio visual aids
	C117.2	Build confidence and overcome inhibitions while speaking in English
	C117.3	Demonstrate acquired language skills in performing the designated activity
Applied/ Engineering Physics Lab	**C118.1**	Apply the knowledge of different phenomena of light like interference, diffraction and handle various optical measuring instruments
	C118.2	Analyze various electronic circuits and its components and verify the laws of stretched string
	C118.3	Draw the relevance between theoretical knowledge and the means to imply it in a practical manner by performing various relative experiments
Computer Programming Lab	**C119.1**	Understand various computer components, Installation of software. C programming development environment, compiling, debugging, and linking and executing a program using the development environment
	C119.2	Analyzing the complexity of problems, Modularize the problems into small modules and then convert them into programs
	C119.3	Construct programs that demonstrate effective use of C features including arrays, strings, structures, pointers and files
	C119.4	Apply and practice logical ability to solve the real world problems
English-2	**C121.1**	Apply the four languages learning skills-listening, speaking, reading, writing (LSRW) for professional success
	C121.2	Employ knowledge of grammatical structures and vocabulary in speech and writing

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
English-2	**C121.3**	Apply effective communication skills to enhance professional possibilities
	C121.4	Develop acceptable personality traits suitable for chosen profession
Mathematics-3	**C122.1**	Solve system of linear algebraic equations and apply Eigen value computation techniques to reduce a given quadratic to canonical form
	C122.2	Apply double and triple integrals to find areas and volumes
	C122.3	Apply special functions to evaluate improper integrals
	C122.4	Apply the concepts of vector calculus to the problems of work done by a force, circulation and flux
Applied Chemistry	**C123.1**	Identify the advantages and limitations of plastics, elastomers and their use in day to day life
	C123.2	Identify the fuels which are commonly used and their economics, advantages and limitations
	C123.3	Select the suitable methods of corrosion control and gain the knowledge of applications of batteries
	C123.4	Recognize the need of nano materials, green synthesis, liquid crystals, Superconductors and their uses
	C123.5	Obtain the knowledge of semiconductors, insulators and magnetic materials
	C123.6	Obtain the knowledge of generation of electricity from various Non-Conventional energy sources like solar energy, hydropower and geothermal energy
Object Oriented Programming through C++	**C124.1**	Understand the concepts of object-oriented programming and basic structure of C++ programming
	C124.2	Apply the concepts of classes, constructor, destructor and operator overloading
	C124.3	Construct the C++ program, by using various inheritance concepts and virtual functions
	C124.4	Implement the template and exception handling for simple and complex programs
	C124.5	Describe various standard template library
Environmental Studies	**C125.1**	Ability to acquire knowledge about the importance of environment & availability of resources
	C125.2	Understand different environmental challenges induced due to anthropogenic activities as well as nature
	C125.3	Able to identify the solutions to the environmental problems for the sake of healthy life by protecting our natural resources
	C125.4	Create awareness on the social issues, environmental protection acts
	C125.5	Able to understand the environmental impact of developmental activities

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Engineering Mechanics	**C126.1**	Calculate frictional force by resolving the forces into components, moment of force
	C126.2	Draw complete and correctly labeled Free Body Diagrams of rigid bodies or systems of rigid bodies in static equilibrium
	C126.3	Compute the Centroid and the Centre of gravity of 2-D bodies using the method of composite area
	C126.4	Analyze the properties of surfaces & solids in relation to moment of inertia
	C126.5	Apply fundamental concepts of kinematics and kinetics of particles to the analysis of simple, practical problems
	C126.6	Determine the complete motion of a rigid body resulting from an application of a system of forces, using work energy and impulse momentum principles
Applied/Engineering Chemistry Lab	**C127.1**	Obtain the knowledge of acid-base titrations to determine the strength of acid and base solutions
	C127.2	Gain the knowledge of Redox titrations to determine the concentration of samples such as Ores, KMnO4 and Copper using different indicators
	C127.3	Obtain the knowledge of complexometry titrations to determine the hardness of given water sample by EDTA method
	C127.4	Gain the knowledge of commonly used instruments such as pH meter, Conductivity meter and Potentiometer to determine the strength of given acid solutions
English Communication Skills Lab.-2	**C128.1**	Recognize the sounds of English with the help of audio visual aids
	C128.2	Build confidence and overcome inhibitions while speaking in English
	C128.3	Demonstrate acquired language skills in performing the designated activity.
Object Oriented Programming Lab	**C129.1**	Understand the object oriented concepts with language environment
	C129.2	Implement Object Oriented Programming Concepts in C++
	C129.3	Implement Object Oriented Programs using templates and exceptional handling concepts
Statistics with R programming	**C211.1**	Describe various concepts of R programming and summarize statistics concepts and summarize the differences between proprietary software and free and open source software
	C211.2	Apply R programming structures, functions and packages on different kinds of data and data sets (to get insights) and for statistics and visualization
	C211.3	Model different types of graphs and charts by importing, reviewing, manipulating data sets in R
	C211.4	Interpret and compare the outputs of statistical functions, and various graphs and charts created using R software
Mathematical Foundation of Computer Science	**C212.1**	Understand the fundamentals and various algorithms, theorems, Graphs of DMS
	C212.2	Apply various algorithms, theorems, Graphs to solve problems in DMS

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
	C212.3	Analyze various problems using different discrete mathematical concepts
	C212.4	Evaluate various conditions/Statements/problems using the concepts in DMS
Digital Logic Design	**C213.1**	Able to understand Binary Systems, Boolean Functions, Logic Gates, Combinational Circuits, Sequential Circuits and memories
	C213.2	Able to apply number systems, Boolean functions and logic gates for the design of logic circuits
	C213.3	Able to analyze different combinational and sequential circuits
	C213.4	Able to design different combinational and sequential circuits
Python Programming	**C214.1**	Understand the need for learning basic concepts of Python programming language
	C214.2	Apply various data structures in developing solutions to real time scenarios
	C214.3	Analyze various concepts of functions, make use of packages, object oriented concepts in python programming and Outline Exception handling concepts
	C214.4	Design the usage of pattern matching, GUI in python programming and testing concepts
Data Structures through C++	**C215.1**	Understand basic concepts like array, sorting, searching, linear and non-linear data Structures algorithms and the concepts of oops paradigm
	C215.2	Apply various linear and non-linear data structures, sorting and searching algorithms for solving computing problems
	C215.3	Analyze various methods of linear and non-linear data structures, sorting and searching algorithms
	C215.4	Evaluate the linear and non-linear data structures in a given application
Software Engineering	**C216.1**	Able to understand about principles and practices of software engineering, learn different process models phases and maintenance of process models
	C216.2	Able to apply the fundamentals concepts of software architectural styles and user interface design for modeling a software project
	C216.3	Able to apply software reliability concepts and different CASE tools to support software product development
	C216.4	Able to analyze the requirements of software and perform validations during testing for maintaining quality of a product
Data Structures through C++ Lab	**C217.1**	Apply appropriate linear / non-linear data structure operations for solving a given problem
	C217.2	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval
	C217.3	Apply various searching and sorting techniques for solving given problem
	C217.4	Analyze the linear / non-linear data structure operations for a given problem
Python programming Lab	**C218.1**	Understand the need for learning basic concepts of Python programming language

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Python programming Lab	**C218.2**	Apply various data structures in developing solutions to real time scenarios
	C218.3	Analyze various concepts of functions, make use of packages,object oriented concepts in python programming and Outline Exception handling concepts.
	C218.4	Design the usage of pattern matching, GUI in python programming and testing concepts
Computer Graphics	**C221.1**	Understand the basic concepts of Computer graphics like algorithmic concepts, attributes, 2D and 3D transformations and comprehension of viewing and also basic open GL commands shading,fractals and concepts of ray tracing
	C221.2	Implement various graphing drawing algorithms to generate 2D and 3D objects and apply transformations and clipping algorithms
	C221.3	Able to analyze 2D and 3D objects while applying projections, boolean operations and also various color models
	C221.4	Able to analyze the various shading models and ray tracing and fractals to generate real world objects
Java Programming	**C222.1**	Use the syntax and semantics of java programming language and basic concepts of OOP
	C222.2	Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages
	C222.3	Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes
	C222.4	Design event driven GUI and web related applications which mimic the real world scenarios
E-Commerce	**C223.1**	Able to identify and define E-commerce applications and stakeholder needs
	C223.2	Able to discuss various E-commerce strategies, Payment systems, Flow and automation, Corporate libraries and Marketing, Consumer research and Resource discovery, and Multimedia concepts
	C223.3	Able to demonstrate E-commerce process models, EDI and payment procedures, Automation techniques, Digital Marketing and Advertising Technique, Consumer search and discovery paradigms, Multimedia implementation
	C223.4	Able to analyze all the scenarios of E-Commerce
Computer Organization	**C224.1**	Able to understand the functional architecture of computing systems
	C224.2	Able to identify, compare and assess issues related to bus, memory, Control and I/O functions
	C224.3	Able to correlate and analyze the operations carried out in Processing Unit
	C224.4	Able to design solutions in the area of computer architecture
Object Oriented Analysis and Design Using UML	**C225.1**	Recognize and understand the concepts and principles of object-oriented programming, major components and key mechanisms of class and object diagrams
	C225.2	Study concepts of UML and apply basic and behavior modeling concepts by modeling use case, activity and interaction diagrams to solve the real world complex problems

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Object Oriented Analysis and Design Using UML	**C225.3**	Apply advanced behavioural modelling concepts by modelling state chart diagrams to solve complex problems
	C225.4	Apply architectural modelling concepts to design the system architecture by modelling component and deployment diagrams
Principles of Programming Languages	**C226.1**	Able to understand and apply syntax and semantics of programming languages
	C226.2	Able to analyze data, data types, and basic statements of programming languages
	C226.3	Able to implement subprogram constructs, Apply object - oriented,concurrency, and event handling programming constructs
	C226.4	Able to Understand and adopt functional and logical programming languages
Unified Modeling Languages Lab	**C227.1**	Understand the Case Studies and Design the Model
	C227.2	Understand how design patterns solve design problems
	C227.3	Develop design solutions using Creational Patterns
	C227.4	Construct Design Solutions by using Structural and Behavioural Patterns
Java Programming Lab	**C228.1**	Use the syntax and semantics of java programming language and basic concepts of OOP
	C228.2	Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages
	C228.3	Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes
	C228.4	Design event driven GUI and web related applications which mimic the real world scenarios
Human Computer Interaction	**C311.1**	Understand concepts of GUI, Ui and documentation design issues
	C311.2	Understand Fundamentals designs, evaluation method and design issues for user assistance in HCI systems
	C311.3	Apply theories and concepts associated with effective work design to real world problem
	C311.4	Analyze various concepts of HCI and various interactive devices
UNIX and Shell Programming	**C312.1**	Able to understand the fundamental concept of unix components, file systems and process
	C312.2	Able to apply various commands in UNIX operating system
	C312.3	Create a shell script to solve the problem
	C312.4	Able to analyse a Regular expression for pattern matching and analyze them to various filters for a specific task
Advanced Java Programming	**C313.1**	Understand the concepts Swing Package, System Class, Collections, java beans, Servlets and JSP
	C313.2	Apply the concepts Swing Package, System Class, Collections, Java beans, Servlets and JSP
	C313.3	Analyze Collections, Java beans, Servlets and JSP
	C313.4	Develop applications with Servlets and JSP
Database Management Systems	**C314.1**	Students will be able to Understand the basic concepts of Data Base, Relational Model, Transaction Management, Concurrency Control ,Crash Recovery

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Database Management Systems	**C314.2**	Students will be able to Apply ER Model for designing Conceptual Data Base and Relational Model for designing Logical Data Base
	C314.3	Students will be able to Analyze the concepts of Relational Algebra, Schema Refinement and Normalization
	C314.4	Students will be able to Design Data Base applications using SQL Queries
Operating Systems	**C315.1**	Understands OS evolution, its structure and all the services provided by it
	C315.2	Apply the process scheduling, policies, mechanisms, process synchronization; inter process communication, dead locks for processes, paging and segmentation techniques in memory management
	C315.3	Analyze various CPU scheduling, disk scheduling, deadlocks, non- contiguous memory allocation algorithms
	C315.4	Evaluate files system & implementation issues, disk scheduling, UNIX/ LINUX / Windows OS platforms and other process subsystem related concepts
Advanced Java Programming Lab	**C316.1**	Students are able to apply the technologies like HTML, JDBC, SERVLETS and JAVA BEANS
	C316.2	Students are able to analyze the various concepts of technologies like HTML, JDBC, SERVLETS and JAVA BEANS.
	C316.3	Students are able to design web applications using the various technologies like HTML, JDBC, SERVLETS and JAVA BEANS
	C316.4	Students are able to develop web applications using the various technologies like HTML, JDBC, SERVLETS and JAVA BEANS
UNIX and Operating Systems Lab	**C317.1**	Able to install unix operating system and run basic unix commands on unix/Ubuntu Operating system
	C317.2	Able to simulate CPU scheduling, Page replacement algorithms
	C317.3	Able to Analyze shell programming, filters on unix/Ubuntu Operating system
	C317.4	Able to create new commands on unix\Ubuntu Operating system
Database Management System Lab	**C318.1**	Students will able to get practical knowledge on designing and creating relational database systems
	C318.2	Students will able to understand various advanced queries execution such as relational constraints, joins, set operations, aggregate functions, trigger, views and embedded SQL
	C318.3	Students will able to analyze various software's to design and build ER Diagrams, Flow chart for relational database systems
	C318.4	Students will be able to design and implement database applications on their own
Computer Networks	**C321.1**	Student will be able to Understand the Physical Layer concepts of OSI reference Models
	C321.2	Student will be able to Apply the Data link Layer concepts
	C321.3	Student will be able to Apply the OSI, and TCP/IP Models for a given Problem
	C321.4	Student will be able to Analyze the concepts of OSI, and TCP/IP Models
Data Mining	**C322.1**	Understand various pre-processing techniques, classification, prediction and clustering methods

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Data Mining	**C322.2**	Apply various classification, prediction and clustering methods on realistic data to extract useful information from raw data
	C322.3	Analyze various methodologies and techniques used in Data Mining and Data Warehousing to discover interesting patterns from different kinds of data
	C322.4	Evaluate various algorithms used in Data Mining for taking better business decisions
Web Technologies	**C323.1**	Students are able to understand the various concepts of web technologies
	C323.2	Students will able to implement the technologies like HTML, CSS,XML, AJAX and PHP for developing the web pages.
	C323.3	Students will able to Analyze the various concepts of technologies like HTML,CSS,XML,JS,PHP,PERL and RUBY
	C323.4	Students will able to Develop web applications using the various technologies like HTML,CSS,XML,JS,PHP,PERL and RUBY
Software Testing Methodologies	**C324.1**	Able to understand the basic concepts of software testing terminology and various testing procedures
	C324.2	Able to apply transaction flow and data flow testing strategies to perform functional testing , identify nice & ugly domains by performing domain testing and reduce the path expression when needed.
	C324.3	Able to apply syntax testing and logic based testing concepts for test case generation and apply various automation tools to resolve the problems in Real time environment
	C324.4	Able to analyze the applications by applying different testing methods in state graphs & transition testing.
Artificial Intelligence	**C325.1**	Understand Basics of Artificial Intelligence
	C325.2	Apply and analyze various strategies of problem solving, problem reductions and game playing
	C325.3	Analyze logic concepts and various ways of knowledge representation and advanced knowledge representation techniques
	C325.4	Understanding of some of the advanced topics of AI such as expert systems and applications, uncertainty measure and Fuzzy sets and Fuzzy logic
Web Technologies Lab	**C326.1**	Students are able to apply the technologies like HTML,CSS,XML,JS,PHP,PERL and RUBY
	C326.2	Students are able to analyze the various concepts of technologies like HTML,CSS,XML,JS,PHP,PERL and RUBY
	C326.3	Students are able to design web applications using the various technologies like HTML,CSS,XML,JS,PHP,PERL and RUBY
	C326.4	Students are able to develop web applications using the various technologies like HTML,CSS,XML,JS,PHP,PERL and RUBY
Software Testing Lab	**C327.1**	Understanding working of software testing with c language.
	C327.2	Able to Write test suits for various applications.
	C327.3	Analyze the system specification and report various bugs.
	C327.4	Apply winrunner, selenium testing tool for testing a program

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Data Mining Lab	**C328.1**	Apply mining algorithms as a component to the existing tools for taking better business decisions
	C328.2	Analyze Data mining techniques for realistic data using WEKA tool
	C328.3	Evaluate the data mining techniques on realistic data by using WEKA tool
	C328.4	Design a system to take better business decisions using data mining algorithms with help of WEKA tool
Cryptography and Network Security	**C411.1**	Students will be able to understand various cryptographic and network security services and mechanisms
	C411.2	Students will be able to apply various cryptographic techniques and system level network security applications
	C411.3	Students will be able to analyze various cryptographic techniques and system level network security applications
	C411.4	Students will be able to evaluate the cryptographic algorithms , hash algorithms and network application security schemes
Mobile Computing	**C412.1**	Able to understand communication, mobile computing fundamentals, network applications and/or algorithms/protocols
	C412.2	Able to apply new methodologies in mobile applications
	C412.3	Able to analyze all the communication components and softwares related to mobile computing environment
	C412.4	Able to evaluate any new technical issues related to mobile computing paradigm and come up with a solution(s)
Data Warehousing and Business Intelligence	**C413.1**	Able to understand the basic concepts and major issues of Data Mining, various concepts of Data Warehousing like star schema, fact and dimension tables and OLAP operations, various steps of data pre-processing, data pre-processing techniques and the concepts of web mining
	C413.2	Able to apply data mining concepts like frequent pattern, frequent item set mining techniques, association rule mining concepts, etc. on various BI applications like scorecard, fraud detection, etc
	C413.3	Able to apply various classification, prediction and clustering methods on the pre-processed data
	C413.4	Able to analyse the concepts of stream and sequence data mining, special and text data mining using appropriate mining methods
Managerial Economics and Financial Analysis	**C414.1**	Students will be able to Understand Nature and scope of Managerial Economics, demand and supply and various business organizations and market types and also accounting types, financing analysis
	C414.2	Students will be able to Apply production cost analysis, capital budgeting, financial analysis techniques in evaluating various investment opportunities
	C414.3	Students will be able to Analyze various aspects of managerial economics, production & cost analysis, markets & pricing strategies and market strategies
	C414.4	Students will be able to Evaluate the capabilities in the interpretation of various industrial /organizational balance sheets
Big Data Analytics	**C415.1**	Preparing for data summarization, query, and analysis
	C415.2	Applying data modelling techniques to large data sets
	C415.3	Creating applications for Big Data analytics
	C415.4	Building a complete business data analytic solution

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Cloud Computing	**C416.1**	Understand cloud computing services, virtualization, architectural constraints, software environments, resource and storage managements in cloud
	C416.2	Apply cloud computing services, virtualization techniques, architectural models, software environments related to cloud, resource and storage managements in cloud to different scenarios of users requirements
	C416.3	Analyze performance of cloud computing by using services from different service providers of cloud for different requirement of users
	C416.4	Evaluate various cloud programming models to solve problems on the cloud
Mobile Computing Lab	**C417.1**	Students will be able to understand J2ME constructs, Midlets, network & socket connectivity, Android programming concepts, Android OS, applications, layouts, views
	C417.2	Students will be able to apply J2ME concepts, Midlets, Android programming concepts
	C417.3	Students will be able to develop various J2ME based MIDP applications and Android based applications
	C417.4	Students will be able to analyze various mobile emulators and their working
Cryptography and Network Security Lab	**C418.1**	Students will be able to understand various cryptographic and network security services and mechanisms
	C418.2	Students will be able to apply various cryptographic techniques and system level network security applications
	C418.3	Students will be able to analyze various cryptographic techniques and system level network security applications
	C418.4	Students will be able to evaluate the cryptographic algorithms , hash algorithms and network application security schemes
Distributed Systems	**C421.1**	Able to Understand the Distributed systems concepts, inter process communication, remote invocation, operating system support, file system and transaction management in distributed systems
	C421.2	Able to apply protocols in inter process communication, RMI , OS &File system concepts , concurrency control and transaction recovery in DS environment
	C421.3	Able to analyse various IPC techniques, RMI implementations, OS & file system operations, Concurrency and transaction recovery techniques
	C421.4	Able to evaluate different constructs, methods and procedures in DS environment
Management Science	**C422.1**	Understand the concepts related to Organizations
	C422.2	Understand the role of management
	C422.3	Demonstrate the roles, skills and functions of management
	C422.4	Analyze simple problems like EOQ,ABC(HML,SDE,VED and FSN),PERT/CPM and Strategic Management
Management Information System	**C423.1**	Understand the leadership role of Management Information Systems in achieving business competitive advantage through informed decision making
	C423.2	Able to identify appropriate strategies to manage the system implementation process
	C423.3	Able to Implement Management information systems in transaction processing and accounting information
	C423.4	Analyze and synthesize business information and systems to facilitate evaluation of strategic alternatives

COURSE	CO CODE	COURSE OUTCOME DESCRIPTION
Cyber Security	**C424.1**	Understand Cyber security architecture and principles
	C424.2	Protect and defend computer systems and networks from cyber security attacks
	C424.3	Analyze and Resolve security issues in networks and computer systems to secure an IT infrastructure
	C424.4	Design and implement risk analysis, security policies, and damage assessment
Project	**C425.1**	Able to understand software engineering process models to solve complex problems
	C425.2	Able to gather and document the requirements of the real world problems
	C425.3	Able to design architecture of the application and develop the data store layout by utilising modern tools
	C425.4	Able to develop solutions using programming languages
	C425.5	Develop the team work and leadership skills with professional and ethical values