

	<b>KNOWLEDGE INSTITUTE OF TECHNOLOGY, SALEM - 637 504</b>	
	Approved by AICTE, Affiliated to Anna University, Accredited by NAACand NBA (B.E : Mech., ECE, EEE & CSE)	
	Kakapalayam(PO), Salem - 637 504	<a href="http://www.kiot.ac.in">www.kiot.ac.in</a>

**List of COs for UG courses under Anna University Regulation 2021**

<b>Department of Computer Science and Engineering</b>	
<b>Semester</b>	: I
<b>Course Code &amp; Name</b>	: HS3151 & PROFESSIONAL ENGLISH I
<b>Year of Study</b>	: 2021-2022
COs No.	Course Outcome
C101.1	To use appropriate words in a professional context.
C101.2	To gain understanding of basic grammatic structures and use them in right context.
C101.3	To read and infer the denotative and connotative meanings of technical texts
C101.4	To write definitions, descriptions, narrations and essays on various topics
<b>Semester</b>	: I
<b>Course Code &amp; Name</b>	: MA3151 & MATRICES AND CALCULUS
<b>Year of Study</b>	: 2021-2022
COs No.	Course Outcome
C102.1	Use the matrix algebra methods for solving practical problems.
C102.2	Apply differential calculus tools in solving various application problems.
C102.3	Able to use differential calculus ideas on several variable functions.
C102.4	Apply different methods of integration in solving practical problems.
C102.5	Apply multiple integral ideas in solving areas, volumes and other practical problems.

<b>Semester</b> : I	
<b>Course Code &amp; Name</b> : PH3151 & ENGINEERING PHYSICS	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C103.1	Understand the importance of mechanics.
C103.2	Express their knowledge in electromagnetic waves.
C103.3	Demonstrate a strong foundational knowledge in oscillations, optics and lasers.
C103.4	Understand the importance of quantum physics.
C103.5	Comprehend and apply quantum mechanical principles towards the formation of energy bands.
<b>Semester</b> : I	
<b>Course Code &amp; Name</b> : CY3151 & ENGINEERING CHEMISTRY	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C104.1	To infer the quality of water from quality parameter data and propose suitable treatment methodologies to treat water.
C104.2	To identify and apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nanomaterials for engineering and technology applications.
C104.3	To apply the knowledge of phase rule and composites for material selection requirements.
C104.4	To recommend suitable fuels for engineering processes and applications.
C104.5	To recognize different forms of energy resources and apply them for suitable applications in energy sectors.
<b>Semester</b> : I	
<b>Course Code &amp; Name</b> : GE3151 & PROBLEM SOLVING AND PYTHON PROGRAMMING	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C105.1	Develop algorithmic solutions to simple computational problems.

C105.2	Develop and execute simple Python programs.
C105.3	Write simple Python programs using conditionals and loops for solving problems.
C105.4	Decompose a Python program into functions.
C105.5	Represent compound data using Python lists, tuples, dictionaries etc
C105.6	Read and write data from/to files in Python programs.
<b>Semester</b> : I <b>Course Code &amp; Name</b> : GE3171 & PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C106.1	Develop algorithmic solutions to simple computational problems
C106.2	Develop and execute simple Python programs.
C106.3	Implement programs in Python using conditionals and loops for solving problems.
C106.4	Deploy functions to decompose a Python program.
C106.5	Process compound data using Python data structures.
C106.6	Utilize Python packages in developing software applications.
<b>Semester</b> : I <b>Course Code &amp; Name</b> : BS3171 & PHYSICS AND CHEMISTRY LABORATORY <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C107.1	Understand the functioning of various physics laboratory equipment. To analyse the quality of water samples with respect to their acidity, alkalinity, hardness and DO.
C107.2	Use graphical models to analyze laboratory data. To determine the amount of metal ions through volumetric and spectroscopic techniques
C107.3	Use mathematical models as a medium for quantitative reasoning and describing physical reality. To analyse and determine the composition of alloys.
C107.4	Access, process and analyze scientific information. To learn simple method of synthesis of nanoparticles

C107.5	Solve problems individually and collaboratively. To quantitatively analyse the impurities in solution by electro analytical techniques
<b>Semester</b>	: I
<b>Course Code &amp; Name</b>	: GE3172 & ENGLISH LABORATORY
<b>Year of Study</b>	: 2021-2022
<b>COs No.</b>	<b>Course Outcome</b>
C108.1	To listen and comprehend complex academic texts
C108.2	To speak fluently and accurately in formal and informal communicative contexts
C108.3	To express their opinions effectively in both oral and written medium of communication
<b>Semester</b>	: II
<b>Course Code &amp; Name</b>	: HS3251& PROFESSIONAL ENGLISH -II
<b>Year of Study</b>	: 2021-2022
<b>COs No.</b>	<b>Course Outcome</b>
C109.1	To compare and contrast products and ideas in technical texts.
C109.2	To identify cause and effects in events, industrial processes through technical texts
C109.3	To analyse problems in order to arrive at feasible solutions and communicate them orally and in the written format.
C109.4	To report events and the processes of technical and industrial nature.
C109.5	To present their opinions in a planned and logical manner, and draft effective resumes in context of job search.
<b>Semester</b>	: II
<b>Course Code &amp; Name</b>	: MA3251 & STATISTICS AND NUMERICAL METHODS
<b>Year of Study</b>	: 2021-2022
<b>COs No.</b>	<b>Course Outcome</b>
C110.1	Apply the concept of testing of hypothesis for small and large samples in real life problems.
C110.2	Apply the basic concepts of classifications of design of experiments in the field of agriculture.

C110.3	Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.
C110.4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.
C110.5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.
<b>Semester</b> : II <b>Course Code &amp; Name</b> : PH3256 & PHYSICS FOR INFORMATION SCIENCE <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C111.1	gain knowledge on classical and quantum electron theories, and energy band structures
C111.2	acquire knowledge on basics of semiconductor physics and its applications in various devices
C111.3	get knowledge on magnetic properties of materials and their applications in data storage,
C111.4	have the necessary understanding on the functioning of optical materials for optoelectronics
C111.5	understand the basics of quantum structures and their applications and basics of quantum computing
<b>Semester</b> : II <b>Course Code &amp; Name</b> : BE3251 & BASIC ELECTRICAL AND ELECTRONICS ENGINEERING <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C112.1	Compute the electric circuit parameters for simple problems
C112.2	Explain the working principle and applications of electrical machines
C112.3	Analyze the characteristics of analog electronic devices
C112.4	Explain the basic concepts of digital electronics
C112.5	Explain the operating principles of measuring instruments

<b>Semester</b> : II	
<b>Course Code &amp; Name</b> : GE3251 & ENGINEERING GRAPHICS	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C113.1	Use BIS conventions and specifications for engineering drawing.
C113.2	Construct the conic curves, involutes and cycloid.
C113.3	Solve practical problems involving projection of lines.
C113.4	Draw the orthographic, isometric and perspective projections of simple solids.
C113.5	Draw the development of simple solids.
<b>Semester</b> : II	
<b>Course Code &amp; Name</b> : CS3251 & PROGRAMMING IN C	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C114.1	Demonstrate knowledge on C Programming constructs
C114.2	Develop simple applications in C using basic constructs
C114.3	Design and implement applications using arrays and strings
C114.4	Develop and implement modular applications in C using functions
C114.5	Develop applications in C using structures and pointers.
C114.6	Design applications using sequential and random access file processing.
<b>Semester</b> : II	
<b>Course Code &amp; Name</b> : GE3271 & ENGINEERING PRACTICES LABORATORY	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C115.1	Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household

	wood work.
C115.2	Wire various electrical joints in common household electrical wire work.
C115.3	Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipments; Make a tray out of metal sheet using sheet metal work.
C115.4	Solder and test simple electronic circuits; Assemble and test simple electronic components on PCB.
<b>Semester</b> : II <b>Course Code &amp; Name</b> : CS3271 & PROGRAMMING IN C LABORATORY <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C116.1	Demonstrate knowledge on C programming constructs.
C116.2	Develop programs in C using basic constructs.
C116.3	Develop programs in C using arrays.
C116.4	Develop applications in C using strings, pointers, functions.
C116.5	Develop applications in C using structures.
C116.6	Develop applications in C using file processing.
<b>Semester</b> : II <b>Course Code &amp; Name</b> : GE3272 & COMMUNICATION LABORATORY <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C117.1	Speak effectively in group discussions held in a formal/semi formal contexts.
C117.2	Write emails and effective job applications.
<b>Semester</b> : III <b>Course Code &amp; Name</b> : MA3354 & DISCRETE MATHEMATICS <b>Year of Study</b> : 2021-2022	

COs No.	Course Outcome
C201.1	Have knowledge of the concepts needed to test the logic of a program.
C201.2	Have an understanding in identifying structures on many levels.
C201.3	Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science.
C201.4	Be aware of the counting principles.
C201.5	Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.
<b>Semester</b> : III <b>Course Code &amp; Name</b> : CS3351 & DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION <b>Year of Study</b> : 2021-2022	
COs No.	Course Outcome
C202.1	Design various combinational digital circuits using logic gates
C202.2	Design sequential circuits and analyze the design procedures
C202.3	State the fundamentals of computer systems and analyze the execution of an instruction
C202.4	Analyze different types of control design and identify hazards
C202.5	Identify the characteristics of various memory systems and I/O communication
<b>Semester</b> : III <b>Course Code &amp; Name</b> : CS3352 & FOUNDATIONS OF DATA SCIENCE <b>Year of Study</b> : 2021-2022	
COs No.	Course Outcome
C203.1	Define the data science process
C203.2	Understand different types of data description for data science process
C203.3	Gain knowledge on relationships between data
C203.4	Use the Python Libraries for Data Wrangling
C203.5	Apply visualization Libraries in Python to interpret and explore data



<b>Semester</b> : III	
<b>Course Code &amp; Name</b> : CS3301 & DATA STRUCTURES	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C204.1	Define linear and non-linear data structures.
C204.2	Implement linear and non-linear data structure operations.
C204.3	Use appropriate linear/non-linear data structure operations for solving a given problem.
C204.4	Apply appropriate graph algorithms for graph applications.
C204.5	Analyze the various searching and sorting algorithms.
<b>Semester</b> : III	
<b>Course Code &amp; Name</b> : CS3391 & OBJECT ORIENTED PROGRAMMING	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C205.1	Apply the concepts of classes and objects to solve simple problems
C205.2	Develop programs using inheritance, packages and interfaces
C205.3	Make use of exception handling mechanisms and multithreaded model to solve real world problems
C205.4	Build Java applications with I/O packages, string classes, Collections and generics concepts
C205.5	Integrate the concepts of event handling and JavaFX components and controls for developing GUI based applications
<b>Semester</b> : III	
<b>Course Code &amp; Name</b> : CS3311 & DATA STRUCTURES LABORATORY	
<b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C206.1	Implement Linear data structure algorithms.
C206.2	Implement applications using Stacks and Linked lists

C206.3	Implement Binary Search tree and AVL tree operations.
C206.4	Implement graph algorithms.
C206.5	Analyze the various searching and sorting algorithms.
<b>Semester</b> : III <b>Course Code &amp; Name</b> : CS3381 & OBJECT ORIENTED PROGRAMMING LABORATORY <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C207.1	Design and develop java programs using object oriented programming concepts
C207.2	Develop simple applications using object oriented concepts such as package, exceptions
C207.3	Implement multithreading, and generics concepts
C207.4	Create GUIs and event driven programming applications for real world problems
C207.5	Implement and deploy web applications using Java
<b>Semester</b> : III <b>Course Code &amp; Name</b> : CS3361 & DATA SCIENCE LABORATORY <b>Year of Study</b> : 2021-2022	
<b>COs No.</b>	<b>Course Outcome</b>
C208.1	Make use of the python libraries for data science
C208.2	Make use of the basic Statistical and Probability measures for data science.
C208.3	Perform descriptive analytics on the benchmark data sets.
C208.4	Perform correlation and regression analytics on standard data sets
C208.5	Present and interpret data using visualization packages in Python.

<b>Semester</b>	: III
<b>Course Code &amp; Name</b>	: GE3361 & PROFESSIONAL DEVELOPMENT
<b>Year of Study</b>	: 2021-2022
<b>COs No.</b>	<b>Course Outcome</b>
C210.1	Use MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements
C210.2	Use MS EXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding
C210.3	Use MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs, interlinking other elements, and using media objects.