



R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

R.S.M Nagar, Kavaraipeetai, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu- 601206

Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi/Accredited by NAAC with A+ Grade

An ISO 21001:2018 Certified Institution / All the Eligible UG Programs are accredited by NBA, New Delhi



Department of Computer Science and Design

Course Outcomes

ODD Semester 2025-26

Sl. No.	Semester	Theory/ Practical	Course Code / Course Name
1	3	Theory	Discrete Mathematics
2	3	Theory	Universal HumanValues 2: Understanding Harmony
3	3	Theory	Computer Organization and Architecture
4	3	Theory with Practical	Advanced Java Programming (Lab Integrated)
5	3	Theory with Practical	Database Management Systems (Lab Integrated)
6	3	Theory with Practical	Design Thinking (Lab Integrated)
7	3	Practical	Product Development Lab – 1
8	3	Practical	Aptitude and Coding Skills I
9	3	Practical	Internship / Seminar*
10	3	-	Indian Constitution(Non Credit)

Sl. No.	Semester	Theory/ Practical	Course Code / Course Name
1	5	Theory	Open Elective I – Introduction to Generative AI
2	5	Theory	Professional Elective II Augmented and Virtual Reality
3	5	Theory	Professional Elective III C# and .Net Programming
4	5	Theory	Computer Graphics and Multimedia
5	5	Theory with Practical	Product Centric Agile Development
6	5	Theory with Practical	Computer Networks
7	5	Theory with Practical	Advanced Aptitude and Coding Skills I
8	5	Practical	Internship*
9	5	-	Indian Constitution (Non Credit)

Sl. No.	Semester	Theory/ Practical/Honour/Minor	Course Code / Course Name
1	7	Theory	Open Elective III – Foundation of Natural Language Processing
2	7	Theory	Open Elective IV – Embedded Systems
3	7	Theory	Automata theory and Compiler Design
4	7	Theory with Practical	Mobile Application Development
5	7	Theory with Practical	Professional Elective VI- Cloud Foundations
6	7	-	Professional Readiness for Innovation, Employability and Entrepreneurship
7	7	-	Essence of Indian Knowledge Tradition (Non Credit)
8	7	Honours	Computer Vision
9	7	Minors	Robotic Operating System

ODD Semester 2025-26

3rd Semester – B.E. Computer Science and Design

24MA301-Discrete Mathematics

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Examine the validity of the arguments

CO2: Apply various proof techniques and principles using analytic and combinatorial methods

CO3: Develop the recurrence relation for the sequence.

CO4: Implement graph theory technique to solve real time problems.

CO5: Apply the concepts of groups, rings and fields in solving algebraic problems.

CO6: Solve problems in lattices and Boolean algebra.

24GE301- Universal HumanValues 2: Understanding Harmony

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Develop self-awareness and a deeper understanding of their surroundings, including family, society, and nature.

CO2: Identify and resolve inner conflicts based on natural acceptance.

CO3: Become more responsible towards life, and handle problems with sustainable solutions by considering human relationships and natural harmony.

CO4: Enhance their critical thinking and analyzing skills.

CO5: Develop a stronger commitment towards human values, relationships, and societal well-being.

CO6: Apply what they have learnt in different day-to-day settings in real life, and take the initial steps towards integrating these values into daily life.

24CS301- Computer Organization and Architecture

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Infer the basic principles and operations of digital computers.

CO2: Analyze the performance of computers by identifying factors that contribute to performance.

CO3: Apply arithmetic algorithms for various operations..

CO4: Design hardware to solve computationally intensive problems.

CO5: Compare various I/O methods and analyze memory management techniques.

CO6: Demonstrate the concept of parallelism in hardware and software.

24CS302- Advanced Java Programming

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Implement various data structures by utilizing core Java features and libraries.

CO2: Demonstrate proficiency in handling Java I/O operations, including file manipulation for efficient data storage and retrieval.

CO3: Apply and Analyze the Stream API for functional programming and data processing.

CO4: Implement advanced object serialization for complex data structures.

CO5: Utilize regular expressions for text parsing and string manipulation.

CO6: Build applications using advanced Java programming techniques.

24CS303- Database Management Systems

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Map ER model to Relational model to perform database design effectively.

CO2: Implement SQL and effective relational database design concepts.

CO3: Apply relational algebra, calculus and normalization techniques in database design.

CO4: Understand the concepts of transaction processing, concurrency control, recovery procedure and data storage techniques.

CO5: Evaluate and implement transaction processing, concurrency control mechanisms, and recovery procedures to maintain data integrity.

CO6: Analyze and optimize database queries and understand the features and applications of advanced and distributed database systems, including NoSQL.

24CD301- Design Thinking(Lab Integrated)

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Understand the phases of design thinking process.

CO2: Conduct an immersion activity to create an empathy map.

CO3: Define the key problems of the personas created.

CO4: Apply the ideation phase steps to present the prototype ideas.

CO5: Create a prototype with value propositions and test the prototype

CO6: Investigate techniques to identify new directions in design thinking.

Laboratory

24ME311- PRODUCT DEVELOPMENT LAB – 1

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1 : Understand the concept of manufacturing processes.

CO2 : Describe the working of the machine element.

CO3 : Discuss the various applications of engineering materials

CO4 : Summarize the basics of core engineering concepts

CO5 : Describe the process for converting ideas into products

24CS311 - APTITUDE AND CODING SKILLS – I

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Develop vocabulary for effective communication skills.

CO2: Build the logical reasoning enhance critical thinking.

CO3: Develop error correction and debugging skills in programming.

CO4: Apply programming skills to develop programs efficiently.

CO5: Solve problems using quantitative skills

CO6: Develop effective reading and listening skills.

INDIAN CONSTITUTION

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Interpret the knowledge on Indian Constitution.

CO2: Demonstrate the knowledge gained through fundamental rights concept.

CO3: Relate the concept of Lok Sabha and Rajya Sabha.

CO4: Illustrate the concept of Legislative Assembly and Legislative Council.

CO5: Analyze the concept of Local Self Government.

ODD Semester 2025-26

5th Semester – B.E. Computer Science and Design

OPEN ELECTIVE-I 22 AI005 – INTRODUCTION TO GENERATIVE AI

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Elaborate the basic concepts of Generative AI.

CO2: Build Generative AI systems to generate images.

CO3: Apply the concepts used in Generative AI models.

CO4: Use various Generative AI models.

CO5: Compare and use the various Large Language Models.

CO6: Analyse the basics of Prompt Engineering

PROFESSIONAL ELECTIVE II 22CD918 -AUGMENTED AND VIRTUAL REALITY

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Understand Augmented Reality

CO2: Explore different input and output devices used in Virtual Reality System.

CO3: Model the VR system

CO4: Analyze about Google Toolkit's and Scene Graph.

CO5: Apply virtual reality in a variety of sectors.

CO6: Assess the effectiveness of VR in improving training outcomes and operational readiness.

PROFESSIONAL ELECTIVE III 22CD934- C# AND .NET PROGRAMMING

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Implement Class and object concepts using C# Language in the .NET Framework.

CO2: Develop distributed applications using .NET Framework.

CO3: Develop application using advanced C# features.

CO4: Understand window-based application, WCF and WWF.

CO5: Learn assembly management, XAML handling and error resolution

CO6: Create mobile applications using .NET compact Framework

22CD501- COMPUTER GRAPHICS AND MULTIMEDIA

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Implement 2D transformations and algorithms for generating primitives and attributes.

CO2: Solve problems in 3D transformations and viewing.

CO3: Analyze the process of open source Vulkan API.

CO4: Examine rendering techniques and use advanced based rendering.

CO5: Apply lighting and shading models to enhance graphical scenes.

CO6: Understand the multimedia systems and animation.

22CD502- PRODUCT CENTRIC AGILE DEVELOPMENT

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Analyse agile development methods in software development practices.

CO2: Obtain knowledge on Product Centric Value Delivery.

CO3: Implement Agile metrics and its ways of working.

CO4: Apply Product Centric Agile Development to develop web services.

CO5: Examine DevOps concepts and tools for Web Development.

CO6: Develop effective collaboration and communication skills essential for working

within agile teams.

22CS501- COMPUTER NETWORKS

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Explain the fundamental concepts of computer networking and network architecture

CO2: Analyze the performance of various network protocols used in data transmission.

CO3: Design basic network architectures including LAN and WAN using appropriate hardware and software

CO4: Develop skills to diagnose common network issues using tools.

CO5: Analyze the various application layer protocols.

CO6: Implement protocols used for finding shortest route for data transmission

Laboratory

22CS511 - ADVANCED APTITUDE AND CODING SKILLS - I

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Develop advanced vocabulary for effective communication skills.

CO2: Build an enhanced level of logical reasoning and quantitative skills.

CO3: Develop error correction and debugging skills in programming.

CO4: Apply advanced data structures and algorithms in problem solving.

CO5: Develop coding solutions for real-world problems

CO6: Develop advanced vocabulary for effective reading skills

INDIAN CONSTITUTION

Cos Course Outcome: Upon completion of the course, the students will be able to:

CO1: Interpret the knowledge on Indian Constitution.

CO2: Demonstrate the knowledge gained through fundamental rights concept.

CO3: Relate the concept of Lok Sabha and Rajya Sabha.

CO4: Illustrate the concept of Legislative Assembly and Legislative Council.

CO5: Analyze the concept of Local Self Government.

Honours Degree in Creative Media Design

22CD906- STREAMING MEDIA TOOLS AND TECHNOLOGIES

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1: Understand the basics of Audio and Video Streaming.

CO2 Develop Streaming media Applications.

CO3: Apply concepts of Streaming Technologies on applications.

CO4: Hands on experience on streaming tools.

CO5: Analyze streaming services.

CO6: Implement SaaS website development integrating live streaming platforms.

Minor Degree in Internet of things

22EC907- SENSORS AND ACTUATOR DEVICES

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1: Build schematic for IoT solutions with sensors.

CO2: Design and develop IoT based sensor systems.

CO3: Select the appropriate sensors for various industrial applications.

CO4: Evaluate the wireless sensor technologies for IoT.

CO5: Design and develop an IoT Prototype project.

CO6: Identify the IoT networking components with respect to sensors.

ODD Semester 2025-26

7th Semester – B.E. Computer Science and Design

Open Elective III -22AI006-FOUNDATIONS OF NATURAL LANGUAGE PROCESSING

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1: Elaborate the fundamentals of Natural Language Processing.

CO2: Perform word level analysis in NLP.

CO3: Illustrate different ML models for NLP.

CO4: Analyze the syntax and semantics using various methods.

CO5: Analyze text at the word level.

CO6: Apply NLP to solve real-world problems.

Open Elective IV -22EC002- EMBEDDED SYSTEMS

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1: Elaborate the build process of embedded systems.

CO2: Summarize the concepts of embedded system development life cycle.

CO3: Interpret the various embedded networking protocols and I/O interfacing.

CO4: Describe RTOS, multiprocessing, and multitasking.

CO5: Illustrate the different scheduling algorithms used for embedded systems.

CO6: Implement embedded system design methods to a specific application.

22AI602 - Automata Theory and Compiler Design

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1: Construct deterministic and non-deterministic finite automata

CO2: Design context free grammars for formal languages using regular expressions

CO3: Use PDA and Turing Machines for recognizing context-free languages.

CO4: Design a lexical analyzer

CO5: Design a syntax analyzer.

CO6: Design a simple code generator and apply different code optimizations

22CD701 - MOBILE APPLICATION DEVELOPMENT (LAB INTEGRATED)

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1: Understand the basics of mobile application development frameworks and tools, able to develop a UI for mobile application

CO2: Implement mobile applications that manage memory dynamically.

CO3: Design and develop generic, multimodal user interfaces.

CO4: Build applications based on mobile OS like Android, iOS.

CO5: Deploy mobile applications, incorporating security measures to protect against hacking and vulnerabilities.

CO6: Develop layer animation and event handling and location-based services.

Professional Elective VI- 22CS907 – CLOUD FOUNDATIONS (LAB INTEGRATED)

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1: Describe the different ways a user can interact with Cloud.

CO2: Discover the different compute options in Cloud and implement a variety of structured and unstructured storage model.

CO3: Discuss the different application managed service options in the cloud and outline how security in the cloud is administered in Cloud.

CO4: Demonstrate how to build secure networks in the cloud and identify cloud automation and management tools

CO5: Discover a variety of managed big data services in the cloud.

CO6: Use Cloud services to build applications.

Laboratory

22IT711- PROFESSIONAL READINESS FOR INNOVATION, EMPLOYABILITY AND ENTREPRENEURSHIP

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1 Upskill in emerging technologies and apply to real industry-level use cases

CO2 Understand agile development process

CO3 Develop career readiness competencies, Team Skills / Leadership qualities

CO4 Develop Time management, Project management skills and Communication Skills

CO5 Use Critical Thinking for Innovative Problem Solving

CO6 Develop entrepreneurship skills to independently work on products

Honour Degree in Artificial Intelligence

22AI909 – COMPUTER VISION

COs Course Outcome : The students, after the completion of the course, are expected to....

CO1 Analyze and apply basic image processing techniques in practical applications

CO2 Compare the concepts related to feature detection, matching and detection.

CO3 Implement feature-based alignment and motion estimation in real-world applications

CO4 Create and Apply 3D Reconstruction techniques in diverse applications.

CO5 Perform image-based rendering and recognition.

CO6 Implement efficient solutions to image processing and computer vision problems

Minor Degree in Internet of Things

20EC978-ROBOT OPERATING SYSTEM	
COs	Course Outcome : The students, after the completion of the course, are expected to....
CO1	Understand the robotics design and implementation
CO2	Comprehend, classify and analyze the behavior of different types of sensors and actuators.
CO3	Understand the ROS fundamentals
CO4	Gain the knowledge about the types of actuators: electrical, pneumatic, and hydraulic performance criteria and selection.
CO5	Design robotic applications using ROS.
CO6	Design Robots with Localization.