



R.M.K. ENGINEERING COLLEGE

(An Autonomous Institution)

R.S.M Nagar, Kavaraipettai, 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 9001:2015 Certified Institution / All the Eligible UG Programs are accredited by NBA, New Delhi

Department of Computer Science and Design

Course Outcomes

ODD Semester 2023-24

Sl. No.	Semester	Theory/ Practical	Course Code / Course Name
1	3	Theory	Discrete Mathematics
2	3	Theory	Universal Human Values 2: Understanding Harmony
3	3	Theory	Tamils and Technology
4	3	Theory	Computer Organization and Architecture
5	3	Theory with Practical	Advanced Java Programming
6	3	Theory with Practical	Operating Systems
7	3	Theory with Practical	Design Thinking
8	3	Practical	Product Development Lab – 3
9	3	Practical	Aptitude and Coding Skills I
10	3	Practical	Internship and Seminar*
11	3	Practical	Value Education (Non Credit)

Sl. No.	Semester	Theory/ Practical/Honour Degree/Minor Degree	Course Code / Course Name
1	5	Theory	20CD501 - Web Technology
2.	5	Theory	20CD502-Computer Graphics and Animation
3.	5	Theory	20CD503-Augmented and Virtual Reality(Lab Integrated)

4.	5	Theory	20CD905-Product Centric Agile Development (Lab Integrated)
5.	5	Theory	20EC004 - Industrial IoT Applications
7.	5	Practical	20CD511-Computer Graphics and Animation Laboratory
8.	5	Practical	20CD512- Web Technology Laboratory
9.	5	Practical	20CS512-Advanced Aptitude and Coding Skills – I
10	5	Practical	20CS513 - Mini Project and Design Thinking Practices Laboratory
11	5	Honour Degree	20AI302 - Introduction to Data Science
12	5	Minor Degree	20EC901 - Introduction to Internet of Things

ODD Semester 2023-24

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

22MA301-Discrete Mathematics	
Cos	Course Outcome: Upon completion of the course, the students will be able to:
CO1: Validate the arguments using connectives and rule of inference.	
CO2: Solve linear recurrence relations.	
CO3: Determine Euler's path and Hamilton paths.	
CO4: Identify algebraic structures of groups, rings, and fields.	
CO5: Interpret lattices as algebraic structures.	

22GE201- Tamils and Technology	
Cos	Course Outcome: Upon completion of the course, the students will be able to:
CO1: Identify the role of weaving and ceramic technology in ancient Tamil Culture.	

CO2: Assess the design and construction technology ideas in the current Tamil society.

22GE301- Universal Human Values 2: Understanding Harmony

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

CO1: Be aware of themselves, and their surroundings (family, society, nature).

CO2: Be more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.

CO3: Have better critical ability.

CO4: Become sensitive to their commitment towards what they have understood (human values, human relationships, and human society).

CO5: Be able to apply what they have learnt to their own self in different day- to-day settings in real life, at least a beginning would be made in this direction.

CO3: Identify the different types of manufacturing technology used in Tamil society and their significance.

CO4: Classify agricultural and irrigation technologies in ancient Tamil society and its current relevance

CO5: Discuss the fundamentals of scientific Tamil and Tamil computing

22CS302- Computer Organization and Architecture

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

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

CO2: Design Arithmetic and Logic Unit to perform fixed and floating-point operations

CO3: Develop pipeline architectures for RISC Processors

CO4: Summarize Various Memory systems & I/O interfacing.

CO5: Recognize Parallel Processor and Multi Processor Architectures

22CS301- Advanced Java Programming

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

CO1: Apply collections in applications.

CO2: Develop interactive Java applications using swings and event handling mechanism.

CO3: Develop server-side programs using Servlets and JSP.

CO4: Construct simple web pages in PHP and to represent data in XML format.

CO5: Apply AJAX and web services to develop interactive web applications.

22CS304- Operating Systems

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

CO1: Implement the basic concepts of operating systems and process.

CO2: Analyse various CPU scheduling algorithms and thread mechanism.

CO3: Implement the concepts of process synchronization and deadlocks.

CO4: Design various memory management schemes to given situation.

CO5: Implement various I/O and file management techniques

22CD301- Design Thinking

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

Laboratory

22ME311- PRODUCT DEVELOPMENT LAB – 3

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

CO1 : Enhance their skills in design concepts, rules and procedures.

CO2 : Develop their cognitive strategy to think, organize, learn and behave.

CO3 : Demonstrate the ability to provide conceptual design strategies for a product.

CO4 : Describe the procedure for designing a Mock-up model.

CO5 : Recognize and apply appropriate interdisciplinary and integrative strategies for solving complex problems.

22CS311 - 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 and reading skills.

CO2: Build the logical reasoning and quantitative skills.

CO3: Develop error correction and debugging skills in programming.

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

20CD501 - Web Technology

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

CO1 Construct a basic website using HTML and Cascading Style Sheets.

CO2 Build dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.

CO3 Develop server-side programs using Servlets and JSP.

CO4 Construct simple web pages in PHP and to represent data in XML format.

CO5 Apply AJAX and Web Services to develop interactive web applications

20CD502 - Computer Graphics and Animation

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

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

CO2 Solve problems in 3D transformations and viewing.

CO3 Implement the process of open source Vulkan API.

CO4 Implement rendering techniques and use advanced based rendering.

CO5 Understand the multimedia systems and animation.

20CD503 - Augmented and Virtual Reality (Lab Integrated)

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

CO1 Understand Augmented Reality.

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

CO3 Model the VR system.

CO4 To learn about Google Toolkit's and Scene Graph.

CO5 Apply VR in various fields

20CD905 - Product Centric Agile Development (Lab Integrated)

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

CO1 Apply 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 and understand about web services.

CO5 Apply DevOps concepts and tools for Web Development.

20EC004 - Industrial IoT Applications

Cos	Course Outcome : The students, after the completion of the course, are expected to
CO1	Describe IOT, IIOT
CO2	Understand various IoT Layers and their relative importance
CO3	Interpret the requirements of IIOT sensors and understand the role of actuators.
CO4	Study various IoT platforms and Security
CO5	Realize the importance of Data Analytics in IoT
CO6	Design various applications using IIoT in manufacturing sector.

Laboratory

20CD511 - Computer Graphics and Animation Laboratory	
Cos	Course Outcome : The students, after the completion of the course, are expected to
CO1:	Implement 2D transformations and algorithms for generating primitives and attributes
CO2:	Solve problems in 3D transformations and viewing
CO3:	Implement and Render graphics using open source Vulkan API
CO4:	Implement rendering techniques and Use GPU based rendering
CO5:	Create 2D animations.

20CD512 - Web Technology Laboratory	
Cos	Course Outcome : The students, after the completion of the course, are expected to
CO1:	Create web pages using HTML/XML and style sheets.
CO2:	Design user interfaces using Java frames and applets
CO3:	Develop dynamic web pages using server-side scripting and PHP programming.
CO4:	Build applications with AJAX.
CO5:	Develop mini-project using web application.

20CS512- Advanced Aptitude and Coding Skills - I

Cos	Course Outcome : The students, after the completion of the course, are expected to
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CO1:	Develop vocabulary for effective communication and reading skills.
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CO2:	Build the logical reasoning and quantitative skills.
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CO3:	Develop error correction and debugging skills in programming.
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Honour Degree in Artificial Intelligence and Data science

20AI302 - Introduction to Data Science

Cos	Course Outcome : The students, after the completion of the course, are expected to
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CO1:	Explain the fundamentals of data science.
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CO2:	Experiment python libraries for data science.
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CO3:	Apply and implement basic classification algorithms.
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CO4:	Implement clustering and outlier detection approaches.
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CO5:	Present and interpret data using visualization tools in Python.
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Minor Degree in Internet of Things

20EC901 - Introduction to Internet of Things

Cos	Course Outcome : The students, after the completion of the course, are expected to
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CO1:	Identify IoT enabling technologies.
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CO2:	Discover different IoT Architecture.
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CO3:	Understand communication, network and security protocols
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CO4:	Develop IoT based applications with Raspberry Pi
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CO5:	Infer the applications of IoT in Real-world scenario.
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CO6:	Discover the advancements of IoT in various sectors
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