



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
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DEPARTMENT OF INFORMATION TECHNOLOGY

COURSE OUTCOMES

REGULATIONS - 2021

MA3354 -Discrete Mathematics [C201]

C201.1	Make use of propositions, predicates and flow of logical proofs
C201.2	Acquire knowledge on induction and counting principles and to solve recurrence relation.
C201.3	Perceive the knowledge of various types and characteristics of graphs.
C201.4	Interpret concepts and properties of groups, rings and fields.
C201.5	Comprehend the ideas of lattices and Boolean algebra

CS3351–Digital Principles and Computer Organization [C202]

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

CS3352- Foundations of Data Science [C203]

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

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CD3291- Data Structures and Algorithms [C204]

C204.1	Explain abstract data types.
C204.2	Design, implement, and analyze linear data structures, such as lists, queues, and stacks, according to the needs of different applications
C204.3	Design, implement, and analyze efficient tree structures to meet requirements such as searching, indexing, and sorting.
C204.4	Explain tree structures and heap along with their basic operations.
C204.5	Model problems as graph problems and implement efficient graph algorithms to solve them.

CS3391- Object Oriented Programming [C205]


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.

CD3281- Data Structures and Algorithms Laboratory [C206]

C206.1	Implement ADTs as Python classes.
C206.2	Design, implement, and analyse linear data structures, such as lists, queues, and stacks, according to the needs of different applications.
C206.3	Design, implement, and analyse efficient tree structures to meet requirements such as searching, indexing, and sorting.
C206.4	Model problems as graph problems and implement efficient graph algorithms to solve them


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CS3381-Object Oriented Programming Laboratory[C207]

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.

CS3361 -Data Science Laboratory [C208]

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.

GE3361- Professional Development [C209]

C209.1	Use MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements.
C209.2	Use MS EXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding.
C209.3	Use MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs, interlinking other elements, and using media objects.


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CS3452-Theory of Computation [C210]

C210.1	Construct automata theory using Finite Automata.
C210.2	Write regular expressions for any pattern.
C210.3	Design context free grammar and Pushdown Automata.
C210.4	Design Turing machine for computational functions.
C210.5	Differentiate between decidable and undecidable problems.

CS3491- Artificial Intelligence and Machine Learning [C211]

C211.1	Use appropriate search algorithms for problem solving.
C211.2	Apply reasoning under uncertainty.
C211.3	Build supervised learning models.
C211.4	Build ensembling and unsupervised models.
C211.5	Build deep learning neural network models.

CS3492- Database Management Systems [C212]

C212.1	Construct SQL Queries using relational algebra.
C212.2	Design database using ER model and normalize the database.
C212.3	Construct queries to handle transaction processing and maintain consistency of the database.
C212.4	Compare and contrast various indexing strategies and apply the knowledge to tune the performance of the database.
C212.5	Appraise how advanced databases differ from Relational Databases and find a suitable database for the given requirement.


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IT3401- Web Essentials [C213]

C213.1	Apply JavaScript, HTML and CSS effectively to create interactive and dynamic websites
C213.2	Create simple PHP scripts
C213.3	Design and deploy simple web-applications.
C213.4	Create simple database applications.
C213.5	Handle multimedia components

CS3451- Introduction to Operating Systems[C214]

C214.1	Analyze various scheduling algorithms and process synchronization.
C214.2	Explain deadlock prevention and avoidance algorithms
C214.3	Compare and contrast various memory management schemes
C214.4	Explain the functionality of file systems, I/O systems, and Virtualization
C214.5	Compare iOS and Android Operating Systems

GE3451- Environmental Sciences and Sustainability [C215]

C215.1	Understand how interactions between organisms and their environments drive the dynamics of individuals, populations, communities, and ecosystems
C215.2	Able to understand the offensive effects of pollution in the day-to-day life.
C215.3	Able to understand the need of new renewable energy resources - its management and conservation
C215.4	Explore the problems we face in understanding our natural environment and in living sustainability.
C215.5	Understand the Importance and also the techniques to protect natural Resources.


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CS3461- Operating Systems Laboratory[C216]

C216.1	Define and implement UNIX Commands.
C216.2	Compare the performance of various CPU Scheduling Algorithms.
C216.3	Compare and contrast various Memory Allocation Methods.
C216.4	Define File Organization and File Allocation Strategies.
C216.5	Implement various Disk Scheduling Algorithms.

CS3481- Database Management Systems Laboratory [C217]

C217.1	Create databases with different types of key constraints
C217.2	Construct simple and complex SQL queries using DML and DCL commands.
C217.3	Use advanced features such as stored procedures and triggers and incorporate in GUI based application development.
C217.4	Create an XML database and validate with meta-data (XML schema).
C217.5	Create and manipulate data using NOSQL database.

CS3591- Computer Networks [C301]

C301.1	Explain the basic layers and its functions in computer networks.
C301.2	Understand the basics of how data flows from one node to another.
C301.3	Analyze routing algorithms.
C301.4	Describe protocols for various functions in the network.
C301.5	Analyze the working of various application layer protocols.


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IT3501- Full Stack Web Development [C302]

C302.1	Understand the various stacks available for web application development
C302.2	Use Node.js for application development
C302.3	Develop applications with MongoDB
C302.4	Use the features of Angular and Express
C302.5	Develop React applications

CS3551- Distributed Computing[C303]


C303.1	Explain the foundations of distributed systems
C303.2	Solve synchronization and state consistency problems
C303.3	Use resource sharing techniques in distributed systems
C303.4	Apply working model of consensus and reliability of distributed systems
C303.5	Explain the fundamentals of cloud computing

CS3691- Embedded Systems and IoT[C304]

C304.1	Explain the architecture of embedded processors.
C304.2	Write embedded C programs.
C304.3	Design simple embedded applications.
C304.4	Compare the communication models in IOT
C304.5	Design IoT applications using Arduino/Raspberry Pi /open platform.


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CCS347- Game Development[C305]

C305.1	Explain the concepts of 2D and 3d Graphics
C305.2	Design game design documents.
C305.3	Implementation of gaming engines.
C305.4	Survey gaming environments and frameworks.
C305.5	Implement a simple game in Pygame.

CCS344- Ethical Hacking[C306]

C306.1	To express knowledge on basics of computer based vulnerabilities
C306.2	To gain understanding on different foot printing, reconnaissance and scanning methods
C306.3	To demonstrate the enumeration and vulnerability analysis methods
C306.4	To gain knowledge on hacking options available in Web and wireless applications.
C306.5	To acquire knowledge on the options for network protection.
C306.6	To use tools to perform ethical hacking to expose the vulnerabilities.

IT3511- Full Stack Web Development Laboratory [C307]

C307.1	Design full stack applications with clear understanding of user interface, business logic and data storage.
C307.2	Design and develop user interface screens
C307.3	Implement the functional requirements using appropriate tool
C307.4	Design and develop database based on the requirements
C307.5	Integrate all the necessary components of the application


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MX3084-Disaster Risk Reduction and Management [C308]

C308.1	To impart knowledge on the concepts of Disaster, Vulnerability and Disaster Risk reduction (DRR)
C308.2	To enhance understanding on Hazards, Vulnerability and Disaster Risk Assessment prevention and risk reduction
C308.3	To develop disaster response skills by adopting relevant tools and technology
C308.4	Enhance awareness of institutional processes for Disaster response in the country
C307.5	Develop rudimentary ability to respond to their surroundings with potential Disaster response in areas where they live, with due sensitivity

SB3001-Project Based Experiential Learning Program [C309]


C309.1	Use MS Word, MS EXCEL and MS PowerPoint to create quality documents, by structuring and organizing content for their day to day technical and academic requirements.
C309.2	Use IoT, Data analytics with Cognos and Cloud Application techniques to create problem statement.
C309.3	Apply engineering and management principles to achieve goal.
C309.4	Implement software techniques for identified problems.
C309.5	Develop skills in documenting project activities and communicating project status and progress to stakeholders through regular reports and presentations.

CCS356- Object Oriented Software Engineering [C310]

C310.1	Compare various Software Development Lifecycle Models
C310.2	Evaluate project management approaches as well as cost and schedule estimation strategies.
C310.3	Perform formal analysis on specifications
C310.4	Use UML diagrams for analysis and design.
C310.5	Architect and design using architectural styles and design patterns, and test the system


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OBT351- Food, Nutrition and Health [C311]

C311.1	Understand the nutritional values of the various types of foods
C311.2	Analyze the role of food in the metabolic activity of the healthy diet
C311.3	Infer the BMI calculation and stress related diseases
C311.4	Elaborate the independent decision on the choice of food to prevent life style disorders and diseases
C311.5	Assess about the food laws government and to compare junk, modified and super foods

CCS335- Cloud Service Management [C312]

C312.1	Exhibit cloud-design skills to build and automate business solutions using cloud technologies.
C312.2	Possess Strong theoretical foundation leading to excellence and excitement towards adoption of cloud-based services.
C312.3	Solve the real world problems using Cloud services and technologies
C312.4	Subscribe the cloud software's through pay-per-use basis
C312.5	Develop skills in identifying, assessing, and mitigating risks associated with cloud services, including risks.

CCW332- Digital Marketing [C313]

C313.1	To examine and explore the role and importance of digital marketing in today's rapidly changing business environment.
C313.2	To focuses on how digital marketing can be utilized by organizations and how its effectiveness can be measured.
C313.3	To know the key elements of a digital marketing strategy.
C313.4	To study how the effectiveness of a digital marketing campaign can be measured.
C313.5	To demonstrate advanced practical skills in common digital marketing tools such as SEO,SEM, Social media and blogs.


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CCS345- Ethics and AI [C314]

C314.1	Learn about morality and ethics in AI.
C314.2	Acquire the knowledge of real time application ethics, issues and its challenges
C314.3	Understand the ethical harms and ethical initiatives in AI.
C314.4	Learn about AI standards and Regulations like AI Agent, Safe Design of Autonomous and Semi-Autonomous Systems.
C314.5	Understand the concepts of Robo ethics and Morality with professional responsibilities with National and International Strategies on AI

IT3681- Mobile Application Development Lab [C315]

C315.1	Design and build simple mobile applications supporting multiple platforms
C315.2	Apply various programming techniques and patterns to build mobile applications
C315.3	Build real-time mobile applications for society/ environment
C315.4	Build gaming and multimedia based mobile applications
C315.5	Build AI based mobile applications for society/ environment following ethical practice


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