



Nallamuthu Gounder Mahalingam College

Accredited with A++ Grade(4th Cycle) by NAAC and ISO 9001:2015 Certified Institution
An Autonomous Institution, Affiliated to Bharathiar University,
90, Palghat Road, Pollachi -642001, Tamilnadu, INDIA, Coimbatore

COURSE MAPPING RELEVANCE TO LOCAL, REGIONAL, NATIONAL AND GLOBAL DEVELOPMENTAL NEEDS



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COURSE MAPPING RELEVANCE TO LOCAL, REGIONAL, NATIONAL AND GLOBAL DEVELOPMENTAL NEEDS

Sl.No	Description	Link to Relevant Doc.
1	UG Course (Sample Copy)	VIEW
2	PG Course (Sample Copy)	VIEW

**List of Courses having focus on Local, National, Regional and Global Developmental Needs offered by the
B.Sc. Computer Science**

B.Sc. Computer Science						
Programme: B.Sc. (Computer Science)						Year:2021-2024 Batch
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
21UCS517	Core XI: Linux and Shell Programming		✓			Linux kernel and application programs supports their installation on any kind of hardware platform
21UCS518	Core XII: Kotlin Programming				✓	Kotlin is a proven technology for building cross-platform mobile applications and being the official language for Android development
21UCS519	Core XIII: Cyber Security		✓			Cyber security is important because it protects all categories of data from theft and damage
21UCS5E1/ 21UCS5E2/ 21UCS5E3	Core Elective-I: Data Mining and Warehousing / Data Engineering with Google Cloud / Mobile Application Development		✓			The process of finding anomalies, patterns and correlations within large data sets to predict outcomes Leverage data and gain real-time insights that improve your decision-making and accelerate innovation To create apps that work seamlessly on various devices, including smart phones and tablets, as well as different operating systems. This objective ensures that the app can reach a

						broader audience and maximize its potential user base.
21UCS520	Core Lab VII: Linux and Shell Programming Lab				✓	Linux kernel and application programs supports their installation on any kind of hardware platform
21UCS521	Core Lab VIII: Programming Lab using Kotlin		✓			Kotlin is a proven technology for building cross-platform mobile applications and being the official language for Android development
21UCS622	Core XIV: R Programming		✓			It has simplified syntax and not complicated, which gives more emphasis on natural language
21UCS6E4/ 21UCS6E5/ 21UCS6E6	Core Elective – II: Artificial Intelligence and Machine Learning / Front End Development with React / MongoDB				✓	Artificial intelligence refers to the general ability of computers to emulate human thought and perform tasks in real-world environments, while machine learning refers to the technologies and algorithms that enable systems to identify patterns, make decisions, and improve themselves through experience The most popular front-end library globally, offers speedy development, is trusted by leading companies, and can be easily integrated with other technologies MongoDB is built on a scale-out architecture that has become popular with developers of all kinds for developing scalable applications with evolving data schemas. As a document database,

						MongoDB makes it easy for developers to store structured or unstructured data.
21UCS6E7/ 21UCS6E8/ 21UCS6E9	Core Elective – III: Information Retrieval / HTML, Javascript and JQuery for Web Designing / Angular NodeJS				✓	To rapidly search through a large collection of documents to find relevant information to address a particular information need. JavaScript and jQuery are indispensable to modern web development, allowing for interactive elements, animations, and simplified coding A structural framework for dynamic web apps. It lets you use HTML as your template language and lets you extend HTML's syntax to express your application's components clearly and succinctly.
21UCS623	Core Lab IX: R Programming Lab		✓			It has simplified syntax and not complicated, which gives more emphasis on natural language.
21UCS624	Core Lab X: Advanced Applications in MS Excel Lab				✓	Excel allows employees to deal and do calculations and this speeds up productivity.
21UCS625	Project				✓	A statement of facts explaining the background of the project

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Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
22UCS307	Core V: Java Programming				✓	Used to develop desktop and mobile applications, big data processing, embedded systems, and so on
22UCS308	Core VI: Relational Database Management System				✓	Provides an interface between users and applications and the database, as well as administrative functions for managing data storage, access, and performance
22UCS309	Core VII: System Software and Operating System				✓	Manages computer hardware, software resources, and provides common services for computer programs
22UCS3A3	Allied -3 : Computer Based Optimization Techniques		✓			A Powerful approach to decision making by achieving more complete datasets, consider all available options, predict all possible outcomes and estimate risk
22UCS310	Core Lab III: Programming Lab in Java				✓	General-purpose programming language that follows the object-oriented programming paradigm and the Write Once Run Anywhere approach

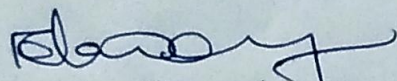
22UCS311	Core Lab IV: Programming Lab in RDBMS				✓	Provides the users with the processes of defining, constructing and manipulating the database for various applications
22UCS3N1 / 22UCS3N2	Non-Major Elective Paper-I Photoshop Lab/ Advanced Applications in MS Excel Lab				✓	Provides many image editing features for pixel-based images, raster graphics and vector graphics / Enables the users to format, organize and calculate data in a spreadsheet for data analytics
22UCS412	Core VIII: Python Programming				✓	The language used to conduct complex statistical calculations, create data visualizations, build machine learning algorithms, manipulate and analyze data, and complete other data-related tasks
22UCS413	Core IX: Open Source Technologies				✓	Has a built-in community that continuously modifies and improves the source code
22UCS414	Core X: Data Communication and Computer Networks				✓	Allows businesses to reduce expenses and improve efficiency by sharing data and common equipment among many different computers
22UCS415	Core Lab V: Programming Lab using Python				✓	Used to build websites and software, automate tasks, and conduct data analysis
22UCS416	Core Lab VI: Web Programming using Open Source Technologies				✓	Open source solutions are inexpensive in an enterprise environment for equivalent or superior capability.

22UCS4N1 / 22UCS4N2	Non-Major Elective Paper-II Flash Lab/ Internet Services and Applications Lab				✓	Creates interactive, and animated media such as motion graphics, videos, presentations and websites / Provides access to surf the web, shop online, conduct business, and connect with family and friends
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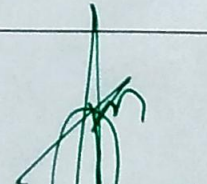
**List of Courses having focus on Local, National, Regional and Global Developmental Needs offered by the
B.Sc. Computer Science**

B.Sc. Computer Science						
Programme: B.Sc. (Computer Science)						Year:2023-2026 Batch
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
23UCS101	CC I: C Programming		✓			Its simplicity, efficiency, and versatility make it a powerful tool for developing a wide range of applications. From operating systems to embedded systems, C finds its use in numerous domains
23UCS102	CC II: Digital Computer Fundamentals and Organization		✓			Provides with skills and knowledge to utilize the digital devices of today as well as providing foundations that will empower them to more easily understand and use future technology as well
23UCS1A1/ 23UCS1A2	GE I – Allied I: Mathematics - Statistical Methods & Linear Algebra / Advanced Mathematics and Applied Statistics		✓			Statistical analysis gives meaning to the meaningless numbers, thereby breathing life into a lifeless data & to understand and make predictions about such diverse things as glacial movement, seismic events etc...
23UCS103	CC Lab I: Programming Lab in C		✓			Its simplicity, efficiency, and versatility make it a powerful tool for developing a wide range of applications. From operating systems to embedded systems, C finds its use in numerous domains
23UCS204	CC III: Data Structures using C++		✓			Data structures bring together the data elements in a logical way and facilitate the effective use, persistence and sharing of data.

23UCS205	CC IV: Data Communication and Computer Networks				✓	Enable seamless exchange of data between any two points in the world. This exchange of data takes place over a computer network.
23UCS2A1 / 23UCS2A2	GE II – Allied II: Discrete Mathematics / Discrete Mathematical Structures		✓			Able to generalize from a single instance of a problem to an entire class of problems, and to identify and abstract patterns from data
23UCS206	CC Lab II: Programming Lab in Data Structures using C++		✓			Data structures bring together the data elements in a logical way and facilitate the effective use, persistence and sharing of data.
23UCS2S1	SEC I: Naan Mudhalvan : Business English Communications				✓	Improve your ability to interact with English-speaking countries or companies.
23UCS2S2	SEC I: Naan Mudhalvan : Blockchain				✓	Blockchain increases trust, security, transparency, and the traceability of data shared across a business network — and delivers cost savings with new efficiencies


HOD Signature

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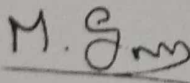
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List of Courses having focus on local, national, regional and global developmental needs offered by the M.Sc Computer Science

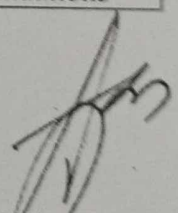
PG COMPUTER SCIENCE						
Programme: M.Sc Computer Science					Year: 2022	
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
22PCS311	Internet of Things				✓	Have devices that self report in real-time, improving efficiency and bringing important information to the surface more quickly than a system depending on human intervention.
22PCS312	Full Stack Web Development				✓	Provides an unparalleled freedom to simultaneously work on the front- and backend, faster development and delivery
22PCS313	Python Programming				✓	Most accessible programming languages available because it has simplified syntax
22PCS314	Digital Image Processing		✓			Extract from an image quantitative information that is not readily apparent to the eye, and to calibrate an image in photometric or geometric terms
22PCS1E1	Advanced Networks		✓			Share information effortlessly, increasing productivity and efficiency, other

						benefits include cost-effectiveness, storage efficiency, flexibility, and data security
22PCS1E2	Wireless Networks				✓	Plays a key role in today's communications, and new forms of it will become central to emerging technologies including robots, drones, self-driving vehicles and new medical devices
22PCS1E3	Network Security & Cryptography				✓	A stable and efficient network security system is essential to protecting client data
22PCS2E1	Software Project Management	✓				Important role in an organization by giving insights into project progress, performance, and inventory tracking
22PCS2E2	Software Engineering and Testing	✓				Application of principles used in the field of engineering, which usually deals with physical systems, to the design, development, testing and deployment of software systems
22PCS2E3	Object Oriented Analysis and Design with UML	✓				Helps to visualize, specify, construct, and document the artifacts of an object-oriented system
22PCS3E1	Artificial Intelligence & Machine Learning				✓	Makes it possible for machines to learn from experience, adjust to

						new inputs and perform human-like tasks
22PCS3E2	Natural Language Processing and Text Analytics				✓	Helps to analyze the data collected from various sources, such as social media profiles, customer surveys, employee surveys, and other feedback tools and
22PCS3E3	Robotic Process Automation for Business				✓	Automate various supply chain processes, including data entry, predictive maintenance and after-sales service support
22PCS3P1	Pilot Project – I				✓	Enables to manage the risk of a new idea and identify any deficiencies before substantial resources are committed
22PCS4P2	Project Work and Viva-Voce				✓	Explore the various functional areas and analyze how theoretical concepts taught are applied in real life situations



CHAIRMAN



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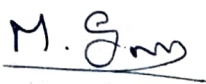
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PG COMPUTER SCIENCE						
Programme: M.Sc Computer Science					Year: 2023	
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
23PCS101	Design & Analysis of Algorithms	✓				It helps to design and analyze the logic on how the program will work before developing the actual code for a program
23PCS102	Data Mining using R Tool		✓			Extract valuable information from available data, uncovering patterns and finding anomalies and relationships in large datasets
23PCS103	Advanced Operating System		✓			An operating system can manage how to divide the program so that it runs on more than one processor at a time
23PCS104	Advanced Java Programming		✓			Provides libraries to understand the concept of Client-Server architecture for web-based applications
23PCS206	Android Programming				✓	Address the business requirements and build new applications or services for smart devices
23PCS207	Cloud Computing				✓	Provides flexible resource allocation on demand with the promise of realizing elastic, Internet-accessible, computing on a pay-as-you-go

						basis
23PCS208	Big Data Analytics				✓	Leads to smarter business moves, more efficient operations
23PCS209	Advanced Database Management System				✓	Provides a centralized view of data that can be accessed by multiple users, from multiple locations, in a controlled manner
23PCS311	Internet of Things				✓	Have devices that self report in real-time, improving efficiency and bringing important information to the surface more quickly than a system depending on human intervention.
23PCS312	Full Stack Web Development				✓	Provides an unparalleled freedom to simultaneously work on the front- and backend, faster development and delivery
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23PCS1E2	Software Engineering and Testing	✓				Application of principles used in the field of engineering, which usually deals with physical systems, to the design,

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23PCS2E3	Mobile Computing				✓	A stable and efficient network security system is essential to protecting client data
23PCS2E1	Advanced Networks		✓			Share information effortlessly, increasing productivity and efficiency, other benefits include cost-effectiveness, storage efficiency, flexibility, and data security
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23PCS2E3	Object Oriented Analysis and Design with UML	✓				Helps to visualize, specify, construct, and document the artifacts of an object-oriented system
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