

CAUSSANEL COLLEGE OF ARTS AND SCIENCE

(Affiliated to Alagappa University, Karaikudi)

Accredited with 'A' Grade by NAAC

Recognized by UGC under 2(f) & 12(B)

Angelo Nagar, Muthupettai, RamanathapuramDist

Type of Graduation	Under Graduation
Programme Name	M.Sc CS& IT
Regulation (CBCS)	2017

Outcome of the Programme

- Provides technology-oriented students with the knowledge and ability to develop creative solutions.

- Develop skills to learn new technology.
- Apply computer science theory and software development concepts to construct computing-based solutions
- . • Design and develop computer programs/computer-based systems in the areas related to algorithms, networking, web design, cloud computing, Artificial Intelligence, Mobile applications.

Specific Outcome of the Programme

Be technology-oriented with the knowledge and ability to develop creative solutions, and better understand the effects of future developments of computer systems and technology on people and society. Get some development experience within a specific field of Computer Science, through project work. Get ability to apply knowledge of Computer Science to the real-world issues. Be familiar with current research within various fields of Computer Science. Use creativity, critical thinking, analysis and research skill

Semester	Subject Code	Subject Title	Outcome	Specific Outcome
I	7MCI1C1	Principles of information Technology	<ul style="list-style-type: none"> • Design, implement and evaluate a computer-based system, or process component, to meet the desired needs within the realistic constraints such as economic,. • 	<ul style="list-style-type: none"> • Review literature and indulge in research using research based knowledge and methods to design new experiments, analyze, and interpret data to draw valid conclusions. <p>Select and apply current techniques, skills, and tools necessary for computing practice and integrate IT-based solutions into the user environment effectively environmental, social,</p>

				political, ethical, health and safety, manufacturability, and sustainability
I	7MCI1C2	Programming in C	<p>advancing concepts of programming and software code organization within the framework of structural and procedural programming paradigms. The special track is organized as a series of lectures, hands-on workshops and exercises using C programming languages and focusing on discussing how to write a program of moderate complexity by using C language.</p>	<ul style="list-style-type: none"> • Understanding a functional hierarchical code organization. • Ability to define and manage data structures based on problem subject domain. • Ability to work with textual information, characters and strings. • Ability to work with arrays of complex objects. • Understanding a concept of object thinking within the framework of functional model. • Understanding

				<p>a concept of functional hierarchical code organization. • Understanding a defensive programming concept. Ability to handle possible errors during program execution.</p>
I	7MCI1C3	Data Structures and algorithms	<p>To impart the basic concepts of data structures and algorithms 2 To understand concepts about searching and sorting techniques 3 To Understand basic concepts about stacks, queues, lists, trees and graphs 4 To understanding about writing algorithms and step by step approach in</p>	<p>Ability to analyze algorithms and algorithm correctness. 2 Ability to summarize searching and sorting techniques 3 Ability to describe stack, queue and linked list operation. 4 Ability to have knowledge of tree and graphs concepts.</p>

			solving problems with the help of fundamental data structures	
I	7MCI1C4	Computer Fundamentals and Architecture	<p>Expertise in the hardware level operations and different instructions</p> <p>Create competent architectures that meet out the today's needs.</p>	<ul style="list-style-type: none"> • Demonstrate the basic computer organization and the Data Representation. • Analyse the machine language and Assembly languages • Understand the basic operations and memory hierarchy of the computers with it types. Use the different types of instructions for read, write and manipulation.

I	7MCI1P1	Programming in C Lab	<ul style="list-style-type: none"> • Read, understand and trace the execution of programs written in C language. • Write the C code for a given algorithm. • Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor. • Write programs that perform operations using derived data types. 	<ul style="list-style-type: none"> • To make the student learn a programming language. • To learn problem solving techniques. • To teach the student to write programs in C and to solve the problems.
I	7MCI1E2	Operating System	<p>Understands the different services provided by Operating System at different level.</p> <ul style="list-style-type: none"> • They learn real life applications of Operating System in every field. • Understands the use of 	<p>Operating System is Important for Computer System.</p> <ul style="list-style-type: none"> • To make aware of different types of Operating System and their services. • To learn different process scheduling algorithms and synchronization

			<p>different process scheduling algorithm and synchronization techniques to avoid deadlock. • They will learn different memory management techniques like paging, segmentation and demand paging etc.</p>	<p>techniques to achieve better performance of a computer system. • To know virtual memory concepts. • To learn secondary memory management.</p>
II	7MCI2C1	Database Technology	<p>Databases store, organize, and process information in a way that makes it easy for us to go back and find what we're looking for. We encounter data sets, both simple and complex, all the time, whether in the form of library card catalogs, financial records, and</p>	<ul style="list-style-type: none"> • To study types of NoSQL databases (Document oriented, keyValue pairs, Column-oriented and Graph) • To understand detailed architecture, define objects, load data, query data and performance tune NoSQL databases.

			even contact directories.	<ul style="list-style-type: none"> • Able to handle large volumes of structured, semi-structured, and unstructured data using database technologies.
II	7MCI2C2	Java Programming	<p>the course the student should be able to: Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs. Read and make elementary modifications to Java programs that solve real-world problems.</p>	<ul style="list-style-type: none"> • Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs. • Read and make elementary modifications to Java programs that solve real-world problems. • Validate input in a Java program. • Identify and fix defects and common

				<p>security issues in code.</p> <ul style="list-style-type: none"> • Document a Java program using Javadoc. • Use a version control system to track source code in a project
II	7MCI2C3	Computer Networks	<p>an opportunity to take courses in the Altschuler Computer Center, a networking and systems lab focused on hands-on learning with modern routers, switches, servers, and storage</p>	<ol style="list-style-type: none"> 1. Graduates are proficient at solving computer networking problems in the workplace. 2. Graduates pursue productive careers in computer networking or a related computing field.

				<p>3. Graduates are engaged in continuing professional development or professional societies in computer networking or a related computing field.</p> <p>4. Graduates follow standards set forth by professional societies of which they are members</p>
II	7MCI2E1	Computer oriented Numerical Methods	Computer-oriented numerical methods for scientific problems. Topics include error	<ul style="list-style-type: none"> • Write code to determine machine epsilon and perform root isolation • Find

			analysis, Taylor series, solutions of equations, linear simultaneous equations, and interpolation.	roots using bisection, linear interpolation, Secant and/or Newton's methods • Demonstrate understanding and ability to use Least squares and Lagrangian polynomials • Demonstrate understanding and ability to write code for Gauss method, Ill-conditioned matrix, LU decomposition • Demonstrate understanding and ability to write code for Jacobi and Gauss-Seidel iteration method
II	7MCI2E4	Fundamental of Grid and cloud	to understand the basic concepts in computer science and engineering	Develop Computer Engineers to understand collaborative projects

		<p>computing</p>	<p>and to apply them in various areas like Fundamentals of programming, Data structures ,computer architecture, Theory of computing ,Database management system, computer networks, operating system, ,Software engineering etc in the design and implementation of complex system</p>	<p>by strengthening problem solving skills, Core computing skills, which offer opportunities for long term interaction with academic and industry. PEO2 - Establish design, research, product execution and services in the field of Computer Science and Engineering through strong technical, communication and entrepreneurial skills PEO3 - Support Society by engaging to scrutinize issues of national relevance as well as of global concern. PEO4 -</p>
--	--	------------------	--	---

				Contribute to life-long learning through the successful completion of advanced degrees, continuing education, certifications and/or other professional developments.
II	7MCI2P1	Java Programming Lab	<ul style="list-style-type: none"> • Using Graphics, Animations and Multithreading for designing Simulation and Game based applications. • Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling. • Design and develop Web applications • Designing Enterprise based 	<p>learn to access database through Java programs, using Java Data Base Connectivity (JDBC)</p> <p>5. create dynamic web pages, using Servlets and JSP.</p> <p>6. make a reusable software component, using Java Bean.</p> <p>7. invoke the remote methods in an application using Remote Method Invocation (RMI)</p>

			<p>applications by encapsulating an application's business logic. • Designing applications using pre-built frameworks.</p>	
III	7MCI3C1	Principles of Compiler Design	<p>the compiler course is to understand the basic principles of compiler design, its various constituent parts, algorithms and data structures required to be used in the compiler</p>	<p>The outcome of this course is to acquire basic skills for designing the compilers, as well as the knowledge of compiler design. After this course a student will know, in some depth, how a compiler works.</p> <p>In particular, he/she should understand the structure of a compiler, and how the source and</p>

				<p>target languages influence various choices in its design.</p> <p>It will give you a new appreciation for programming language features and the implementation challenges they pose, as well as for the actual hardware architecture and the run-time system in which your generated code executes.</p> <p>Understanding the details of typical compilation models will also make you a more distinct programmer.</p> <p>You will also</p>
--	--	--	--	--

				<p>understand some specific components of compiler technology, such as lexical analysis, grammars and parsing, type-checking, intermediate representations, static analysis, common optimizations, instruction selection, register allocation, code generation, and run-time organization.</p>
III	7MCI3C2	Software engineering	<p>the course is to train the students to understand the basic software engineering concepts and make them to analyze,</p>	<p>i. Get insight on planning the software development process. ii. Process SRS and perform requirement engineering of</p>

			estimate & design new software with quality standards.	<p>software development.</p> <p>iii. Develop strategies to initiate, plan, execute, monitor and control the software design.</p> <p>iv. Create test plans to verify and validate a system.</p> <p>v. Apply project management tools and techniques for process development.</p>
III	7MC13C3	Visual Programming	the course is to provide in depth knowledge about .NET framework, VB.Net, ASP.NET and ADO.NET. It also equips the students to develop window applications and dynamic web application.	<p>i. To understand the dot net framework and its features</p> <p>ii. Explore the features of IDE and build window based applications using forms, controls, events, procedures and functions</p>

				<ul style="list-style-type: none"> iii. Understand exception handling, delegates and inheritance concept and write programs on console application. iv. Create database connectivity programs using ADO.NET. v. Gain knowledge on ASP.NET and design simple, dynamic webpages.
III	7MCI3E3	Web Technology	The objective of this course is to gain the knowledge of creating dynamic web pages using HTML5, CSS3, Java Scripts, PHP and MySQL.	<ul style="list-style-type: none"> i. Gain the fundamental knowledge of HTML. ii. Apply the concepts of CSS3. iii. Develop an depth knowledge in JavaScript. iv. Gain the fundamental knowledge

				<p>in PHP</p> <p>v. Gain the basic knowledge in connecting MySql and PHP.</p>
III	7MCI3E6	Mobile Computing	<p>enables the student to learn the basics of wireless voice and data communication technologies.</p>	<p>i. Grasp the concepts and features of Wireless transmission and compare various media of accessing wireless devices.</p> <p>ii. Describe the components and functionalities of mobilenetwork.</p> <p>iii. Understand the applications of e-commerce andm-commerce</p> <p>iv. Acquire the basic knowledge of architecture of various</p>

				<p>mobile OS and compare hybrid and native application.</p> <p>v. Obtain the knowledge of applying IOT in various fields</p>
III	7MCI3P1	Visual Programming Lab	<p>provides the skills and knowledge required to use essential features and capabilities of Visual BASIC, a programming system used to produce Graphical User Interfaces and applications in a Windows environment. It includes basic programming concepts, problem solving, programming logic, and the design of event-</p>	<ul style="list-style-type: none"> the IDE (Integrated Development Environment) that provides a platform for visual programming. With the user diversion towards graphical user interfaces, computer programming languages are also changing.. Visual Basic is graphical user interface programming language which has a bulk of

			driven programming.	inbuilt user friendly tools for understanding programming language concepts. Visual Basic helps to enhance the intellectual and motor skills of students. The course content is designed to understand and implement the event driven requirement of user and providing a solution via Visual Basic Programming.
--	--	--	---------------------	--

