



ARUMUGAM PILLAI SEETHAI AMMAL COLLEGE

(Re-accredited with B+ Grade by NAAC)

Tiruppattur - 630 211.

B.Sc. INFORMATION TECHNOLOGY

Programme Outcome (POs):

PO1: Apply the knowledge of mathematics, science and computing in the core information technologies.

PO2: Identify, design, and analyze complex computer systems and implement and interpret the results from those systems.

PO3: Design, implement and evaluate a computer-based system, or process component, to meet the desired needs within the realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

PO4: Review literature and indulge in research using research based knowledge and methods to design new experiments, analyze, and interpret data to draw valid conclusions.

PO5: Select and apply current techniques, skills, and tools necessary for computing practice and integrate IT-based solutions into the user environment effectively.

PO6: Apply ethical principles and responsibilities during professional practice.

PO7: Function effectively as a team member or a leader to accomplish a common goal in a multidisciplinary team.

PO8: Communicate effectively with a range of audiences using a range of modalities including written, oral and graphical.

PO9: Apply the knowledge of engineering and management principles to manage projects effectively in diverse environments as a member or a leader in the team.

PO10: Engage in independent and life-long learning for continued professional development. Students understand the issues of environmental contexts and sustainable development. Students adapt to societal change for improved career opportunities in Industries, academics and entrepreneurial endeavours. Engage in life-long learning acquiring knowledge of contemporary issues so as to face the career challenges.

Programme Specific Outcome (PSOs):

PSO1: Focuses on preparing student for roles pertaining IT industry.

PSO2: Start from the basics and in every semester learns each and everything about computers.

PSO3: Develop programming skills, networking skills, learn applications, packages, Programming languages and modern techniques of IT.

PSO4: Get skill and info not only about computer and information technology but also in common, organization and management.

PSO5: Learn programming language such as C++, Java, Visual Basic, HTML, PHP, SQL, etc...

PSO6: Information about various computer applications and latest development in IT and communication system is also provided.

PSO7: Gives overview of the topics in IT like networking, computer graphics, web development, trouble shooting, and hardware and software skills.

PSO8: Bachelor of Information Technology gives a number of opportunities to individuals to go ahead and shine in their lives.

PSO9: A few of them being like software programmer, system and network administrator, web designer faculty for Information Technology, computer science and computer applications.



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B.Sc. Information Technology

7BIT1C1: Principles of Information Technology

Course Description:

This course is an introductory course to computers and information technology. It includes computer and information literacy, with the main emphasis on competency with software through hands-on practice. Candidates should know that the OS is software that controls all operations.

Course Objectives

- Define the basic components of a computer system; Understand the basic characteristics of a typical microprocessor; Be aware of the principal input devices, main storage devices, main output devices currently in use;
- Discuss about communication, MODEM, process management ,internet and surfing of data
- They will also learn to solve problems using various programming logic and various file types.

Course Outcome (CO)

Students completing the course will be able to

CO 1: Define the basic components of a computer system; Understand the basic characteristics of a typical microprocessor; Be aware of the principal input devices, main storage devices, main output devices currently in use;

CO 2: Determine the roles for IT in organizations and how IT policies are developed and fit within the organization's objectives and mission statement, while balancing the role of team player and independent technician.

CO 3: Discuss about communication, MODEM, process management ,internet and surfing of data

CO 4: Components of OS. Kernel (supervisor or control program), memory manager, input/output manager, backing store manager, resource allocation and scheduler, accounting, error handling and security, interface between hardware and user.

CO 5: Types of operating systems. Single program OS, multitasking, multiprogramming and networked. Command line interface and GUI interface. Candidates are expected to be aware of different types of operating systems.



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B.Sc. Information Technology

7BSOA1: Fundamentals of Computer:

Course Description:

This course gives a brief introduction to Computer and its components, and the need for data processing. Student could learn the function of the operating system. Students will also be exposed to Windows, MS Word and MS Power-point.

Course Objectives

- A computer is an electronic machine that accepts data, stores and processes data into information.
- The computer is able to work because there are instructions in its memory directing it.
- A brief introduction of Computer and its components i.e., hardware and software are described. Student could learn the definition and functions of the operating system.
- The Windows operating system components and its control panel functions are described. The student could learn the application of Word Processing-MS Word and Presentation-MS Power-point.

Course Outcome (CO)

Students completing the course will have the ability

CO1. To develop their skill in Windows Operating System.

CO2. To create and edit documents.

CO3. To design presentations.

CO4. To connect the components of the computer.

CO5. To install the OS and application soft wares.

CO6. To install drivers for input and output units.

CO7. To use the computer effectively.



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B.Sc. Information Technology

7NME1FC: Communicative English:

Course Description:

This course enables each learner at the college level to communicate effectively in English both in the spoken and in the written mode.

Course Objectives

- The student will learn the basics of English, LSRW skills, spoken communication skills and written communication skills.

Course Outcome (CO)

Students completing the course will have the ability

CO1. To know the basics of English.

CO2. To listen, read speak, and write in English.

CO3. To participate in a conversation.

CO4. To prepare speeches.

CO5. To take notes and summarize the topic

CO6. To prepare curriculum vitae, notice circulars, memos and agenda for a meeting.

CO7. To write e-mails and reports.



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B.Sc. Information Technology

7BIT2C1: Programming in C and Data Structures

Course Description:

- C is a powerful general purpose programming language used for creating a wide variety of system programs and applications. It is one of the most preferred programming languages amongst software programmers. It can be used on a broad range of hardware and operating system platforms. This intermediate level language offers imperative, object-oriented and generic programming features.
- Data structure is a specific method of storing and organizing system data in order to use it efficiently. Large amounts of data including internet indexing services and large databases can be efficiently managed with the implementation of data structures. It also has a major role to play in designing efficient algorithms and system software programs.

Course Objectives

- Enhance your Programming Skills by Learning C with Data Structures
- C is a powerful general purpose programming language used for creating a wide variety of system programs and applications. It is one of the most preferred programming languages amongst software programmers. It can be used on a broad range of hardware and operating system platforms. This intermediate level language offers imperative, object-oriented and generic programming features.
- Data structure is a specific method of storing and organizing system data in order to use inefficiently. Large amounts of data including internet indexing services and large databases can be efficiently managed with the implementation of data structures. It also has a major role to play in designing efficient algorithms and system software programs.
- Provide an overview of programming languages and problem solving techniques.
- Develop programming skills with the understanding of the fundamentals and basics of C Language. Give complete information about control structures, arrays, strings, functions, structures, and pointers.
- Enable the uses the memory management concepts. Provide understanding about the issues regarding file organization and the implementation of file systems.
- Impart knowledge about data structures including linked lists, stacks & queues, and binary tree.

Course Outcome (CO)

CO 1: Understanding about C Basics

- History of Characteristics of C, C Program Structure, Variables, Defining Global Variables, Printing Out and Inputting Variables, Constants, Arithmetic Operations, Comparison Operations, Logical Operators, Order of Precedence Conditionals
- Conditionals, The if statement, The ? Operator, The switch Statement, Looping and Iteration, The for statement, The while statement, The dowhile statement, Break and continue

CO 2: Understanding about Arrays and Strings

- Defining, initializing and using arrays, Single and Multidimensional Arrays, Arrays of Characters and Strings, Arrays and pointers, Strings Functions
- Role of Functions, Passing arguments to functions, Returning values from functions, Recursive functions, Call back functions, Implications on Stack, Pass by value/reference,

Passing Arrays to functions

String Handling : <string.h>

- Basic String handling functions, String Searching, Character Conversions and testing <ctype.h>, Memory Operations: <memory.h>

CO 3: Understanding about Structures and Unions

- Structures, Nested Structures, Array of Structures, Allocation of memory and holes, Unions Further Data Types

- Coercion or Typecasting, Enumerated Types, Static Variables Dynamic Memory Allocation & Dynamic Structures

- Malloc, Sized, and Free, Calloc and Realloc Advanced Pointer Topics

- The purpose of pointers, Defining pointers, The & and * Operators, Pointer, Assignment, Pointers with functions, Pointer Arithmetic, Advanced pointer types, Pointers to functions, Pointers to String, Pointers and Dynamic memory, Pointers and Structures, Common Pointer Pitfalls, Not assigning a pointer to memory address before using it Illegal indirection.

Storage Classes

- Scope, Internal, External, Automatic, Static, Scope and extent of parameters Low Level Operators and Bit Fields

- Bitwise Operators, Bit Fields, Bit Fields: Practical Example, A note of Caution: Portability

CO 4 : Understanding about The C Processor

- #define, #undef, #include, #if - conditional inclusion, Preprocessor Compiler Control, Other Preprocessor Commands, Integer Functions, Random Number, String Conversion <stdlib.h>, Arithmetic Functions, Random Numbers, String Conversion Mathematics: <math.h>: Math Functions, Math Constants Input and Output (I/O) : <stdio.h>

- Reporting Errors, perror(), errno, exit(), Streams, Predefined Streams, Redirection, Basic I/O, Formatted I/O, Printf, Scanf, Files, Reading and writing files, Fprintf and Fscanf Stream Status Enquiries

CO 5: Understanding about Data Structures

- Linked Lists, Stacks & Queues, Binary



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B.Sc. Information Technology

7BSOA2 : Desktop Publishing:

Course Description:

This course offers a wide range of features and tools that can help students to work with different design approaches. Students will be exposed to CorelDraw and Photoshop.

Course Objectives

- CorelDraw is getting started to help to speed quickly with CorelDraw and its new features. This class begins with an overview of the application, including a tour of the interface and a guide to the basic drawing tools, then moves on to more advanced topics, such as adding text, controlling page layout, publishing, and printing final documents.
- The CorelDraw software is designed for graphic designers, fashion designers, textiles designers, print professionals, packaging firms, and aspiring designers. Adobe Photoshop enables individuals to create and design digital images and illustrations for print and Web publication.
- Adobe's Photoshop program has become a mainstay with graphics designers, professional photographers, and even hobbyists to edit graphics as well as create and manipulate images. Students will also learn to use this software.

Course Outcome (CO)

The students will develop their desktop needs using Corel draw and Photoshop. Students completing the course will have the ability

CO1. To create and edit desktop publishing with CorelDraw and Photoshop.

CO2. To use the Corel Draw Objects- Creation and Manipulation Drawing and Shaping objects.

CO3. To work with text special effects.

CO4. To work with bit map commands.

CO5. To work with images using Photoshop.

CO6. To work with tools and filters.



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B.Sc. Information Technology

7BES2 : Environmental Studies:

Course Description:

Creating awareness among students about the importance of environment, the effect of technology on the environment and ecological balance is the prime aim of the course.

Course Objectives

- This course gives a brief introduction about the importance of environment and nature. This also describes about renewable and non-renewable resources, ECOsystems, Bio-diversity and its conservation and pollution.

Course Outcome (CO)

Upon successful completion of this course, students will be able to

CO1. Know the importance of environmental studies and methods of conservation of natural resources.

CO2. Describe the structure and function of an ecosystem.

CO3. Identify the values and conservation of bio-diversity.

CO4. Explain the causes, effects and control measures of various types of pollutions.

CO5. Select the appropriate methods for waste management.

CO6. Get knowledge about various disaster management methods.

CO7. Recall social issues and legal provision.



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B.Sc. Information Technology

7BIT3C1: JAVA PROGRAMMING

Course Description:

- Java Programming is intended for software engineers, systems analysts, program managers and user support personnel who wish to learn the Java programming language.

Course Objectives

- Understand the basic oops concept. Java evaluation and implementation overview of java. Explain about basic Java language, concepts of variables, syntax and semantics to write Java programs.
- Know operators and expressions, decision making and branching, Decision making and looping. Able to understand classes and methods, array strings and vectors, inheritance, interface concept instead of multiple inheritances.
- Packages of java, multithreaded programming contains synchronization, managing errors and exceptions handling.

Course Outcome (CO)

CO 1: Understand the basic oops concept. Java evaluation and implementation overview of java. Explain about basic Java language, concepts of variables, syntax and semantics to write Java programs.

CO 2: Know operators and expressions, decision making and branching, Decision making and looping.

CO 3: Able to understand classes and methods, array strings and vectors, inheritance, interface concept instead of multiple inheritances.

CO 4: Packages of java, multithreaded programming contains synchronization, managing errors and exceptions handling.

CO 5: Able to perform applet programming designing HTML, graphic programming.



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B.Sc. Information Technology

7BIT4P1: JAVA PROGRAMMING LAB

Course Description:

- Java Programming is intended for software engineers, systems analysts, program managers and user support personnel who wish to learn the Java programming language.

Course Objectives

- Understand the basic oops concept. Java evaluation and implementation overview of java .Explain about basic Java language, concepts of variables, syntax and semantics to write Java programs.

Course Outcome (CO)

CO1 Explain the programming language design, syntax and semantics.

CO2. Describe the critical thinking skills through solving programming problems.

CO3 Explain the standard syntax for java programs and other programming Tools.

CO4. Describe the animation and events based advanced java program concepts (Applet)

CO5. Explain the java programs using object oriented class with parameters, constructors, utility, calculations, and methods including inheritance, test classes and exception handling.



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B.Sc. Information Technology

7NME3C: Effective Employability Skills:

Course Description:

This course teaches the basic skills needed to get employment. This course is to build a sense of awareness among students through proper guidance about various effective employability skills in order to motivate students for prospective career in government and corporate sector.

Course Objectives

- The steps to be followed by the students to get selected for a job are discussed. A resume or CV preparation which is a snapshot of the any one qualification for a particular position or type of work is described.
- This course gives the Tips and Tricks to ace Group Discussions and to face an interview. This course also enables the students to learn the team work and motivation needed for a company.

Course Outcome (CO)

Students completing the course will have the ability

CO1. To know the format of CV and resume.

CO2. To know how to face the interviews.

CO3. To know about the Group Discussion.

CO4. To know about the need of team work and motivation.



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B.Sc. Information Technology

7SBS3A1: Competitive Examination Skills:

Course Description:

This course is to build a sense of awareness among students through proper guidance about various competitive examinations in order to motivate students for prospective career in government and corporate sector. This course is also to intensively guide students for competitive examinations like TNPSC, UPSC, SSC, RRB, IBPS etc

Course Objectives

- The competitive examinations skills are well described in this course. The introduced skills are the Numerical ability, Verbal abilities, Memory and inductive reasoning, Logical reasoning, Coding and Decoding, Direction Test, Syllogism, Spatial and perceptual abilities, situation reaction test Intelligence, creativity, and testing.

Course Outcome (CO)

Students completing the course will have the ability

CO1. To understand the numerical ability, verbal ability and perceptual ability.

CO2. To understand the Logical reasoning, memory and inductive reasoning.

CO3. To know about the examination pattern for the respective entrance.

CO4. To know about the magazines that helps to improve skills.



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B.Sc. Information Technology

7BEA3: Extension activities:

Course Description:

Extension activity provides a link between the College and the Society. An extension activity is an activity that extends the learning of students.

Course Objectives

- The second year students are made aware of the common extension activities in order to create socially sensitive citizens. Extension Activities will be organized for 2 days in the Third Semester.
- The programme may be organized in any Saturday and Sunday. A meeting of all the staff of the department be conducted before departing to the camp in which Programmes to carried out.

Course Outcome (CO)

Students completing the course will have the ability

CO1. To understand the community in which they work

CO2. To understand themselves in relation to their community

CO3. To identify the needs and problems of the community and involve them in problem solving process

CO4. To develop among themselves a sense of social and civic responsibility

CO5. To utilize their knowledge in finding practical solution to individual and community problems

CO6. To develop competence required for group-living and sharing of responsibilities

CO7. To gain skills in mobilizing community participation

CO8. To acquire leadership qualities and democratic attitude



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B.Sc. Information Technology

7BIT4C1 : Open source Software:

Course Description:

Open source software is code that is designed to be publicly accessible – anyone can see, modify, and distribute the code as they see fit. Open source software is developed in a decentralized and collaborative way, relying on peer review and community production.

Course Objectives

- The objectives of this course are to introduce students to open source software. Students will study
- Common open source software licenses, open source project structure, distributed team software development, and current events in the open source world. Students will also work on an open source project and will be expected to make a significant contribution.
- After completing this course, the student should be able to explain common open source licenses and the impact of choosing a license explain open source project structure and how to successfully setup a project be competent with distributed software engineering tools and processes such as test-driven development, issues tracking, unit testing, code review, distributed version control, and continuous integration

Course Outcome (CO)

Students completing the course will have the ability

CO 1: Introduction to Open sources - Need of Open Sources -Advantages of Open Sources- Application of Open Sources.

CO 2: OPEN SOURCE DATABASE MySQL: Introduction setting up accounts Starting, terminating and writing your own SQL programs

CO 3: PHP: Introduction, Programming in web environment, variables, constants, and data types.

CO 4: PYTHON-Syntax and Style, Python Objects, Numbers.

CO 5: PERL backgrounder, Perl overview, Perl parsing rules, Variables and Data, Statements and Control structures.



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B.Sc. Information Technology

7BIT4P1 - OPEN SOURCE LAB

- **Course Description:**

- In this course you will learn modular web development using open source tools, frameworks and methodologies.

Course Objectives

- have a good understanding of how to develop software in a team with other developers
- be able to develop web-enabled software using open source tools (such as HTML5, JavaScript and modern web frameworks) and methodologies
- have a good understanding of information system architectures, software platforms, and Application Programming Interfaces (APIs)
- have an understanding of intellectual property rights, open source licensing, and the implications of using open source tools in developing web-enabled software

Course Outcome (CO)

- On successful completion of this course the student should be able to:
CO1 Explain the programming language design, syntax and semantics.
CO2. Describe the critical thinking skills through solving programming problems.
CO3 Explain the standard syntax for OPEN SOURCE LAB programming Tools.



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B.Sc. Information Technology

7BCAA4 - DATA MINING AND WAREHOUSING

Course Description:

- This course will introduce the concepts of data ware house and data mining, which gives a complete description about the principles, used, architectures, applications, design and implementation of data mining and data ware housing concepts.

Course Objectives

- On completion of this course the learner will
 - Be familiar with mathematical foundations of data mining tools..
 - Understand and implement classical models and algorithms in data warehouses and data mining
 - Characterize the kinds of patterns that can be discovered by association rule mining, classification and clustering.
 - Master data mining techniques in various applications like social, scientific and environmental context.
 - Develop skill in selecting the appropriate data mining algorithm for solving practical problems.

Course Outcome (CO)

students will be able to

CO 1. Understand the functionality of the various data mining and data warehousing component

CO 2. Appreciate the strengths and limitations of various data mining and data warehousing models

CO 3. Explain the analyzing techniques of various data

CO 4. Describe different methodologies used in data mining and data ware housing.

CO 5. Compare different approaches of data ware housing and data mining with various technologies



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B.Sc. Information Technology

7BMY4: Manavalakalai Yoga:

Course Description:

This course is an education for students for culturing the mind. Learning and practicing Manavalakali Yoga by students would help them to acquire Physical health, Mental acuteness, strength of life force and wisdom.

Course Objectives

Yoga to students is the only means through which social welfare could be derived. The Course objectives are

- 1. To train and develop the physical body for leading a healthy life.
- 2. To rejuvenate the life energy, to retard the ageing process and to achieve spiritual development.
- 3. To offer meditation practices and introspection so as to strengthen the mind increase its will power, concentration, creativity and receptivity and ultimately to transform the mind to achieve self-realization.
- 4. To help every individual to realize the enduring values of peace, non-violence and harmony to revitalize human society for restoring its sanity and strength

Course Outcome (CO)

Yoga to students is the only means through which social welfare could be derived. On successful completion of this course the student should be able to:

- CO1. To develop healthy human body.
- CO2. To delay the aging process.
- CO3. To restore life energy.
- CO4. To achieve spiritual development
- CO5. To increase power, concentration, creativity and receptivity
- CO6. To achieve self-realization
- CO7. To keep the society with peace, non-violence and harmony



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B.Sc. Information Technology

7BIT5C1 : Database Management Systems:

Course Description:

The Relational Database Management Systems (RDBMS) course is to educate students with fundamental concepts of File processing and database processing system, the various data model and its application, the various normal forms and its role in DBMS. The students will also learn the concepts to learn SQL programs, function, procedure, package, trigger and exception handling.

Course Objectives

- The RDBMS course provides an introduction to Database System, Entity-Relationship Model, designs of Database System, an overview of the architecture, functions, and benefits of a database management system and discusses various database models.
- The course describes the data structure of a relational database model in detail. This course provides to use Triggers, Package, Cursors, and Transaction in PL/SQL.

Course Outcome (CO)

Upon successful completion of this course, students will be able to

CO1. Master the basic concepts and appreciate the applications of database systems.

CO2. Master the basics of SQL and construct queries using SQL.

CO3. Familiar with a commercial relational database system (Oracle) by writing SQL using the system.

CO4. Familiar with the relational database theory and be able to write relational algebra expressions for queries.

CO5. Master sound design principles for logical design of databases, including the ER method and normalization approach.

CO6. Be familiar with the basic issues of transaction processing.



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B.Sc. Information Technology

7BIT5P1 : VISUAL PROGRAMMING LAB

Course Description:

: This lab course instructs to familiarise the student with the Introduction to computer programming using VB.NET. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

Course Objectives

- This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level.
- This course introduces computer programming using the Visual
- Programming language with object-oriented programming principles.
- Emphasis is on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level.
- This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Course Outcome (CO)

After undergoing this laboratory module, the student will be able to:

CO 1.Understanding Simple application using web controls

CO 2.Working in various States of ASP.NET Pages

CO 3.Experiment about Ad-rotator Control

CO 4.Understanding about Calendar control

CO 5.Experiment of Tree view control, Validation controls, Data list link control, Data grid hyperlink



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7BIT5C2 : VISUAL PROGRAMMING :

Course Description:

Introduction to computer programming using VB.NET. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

Course Objectives

- Design, formulate, and construct applications with VB.NET
- Integrate variables and constants into calculations applying VB.NET
- Determine logical alternatives with VB.NET decision structures
- Implement lists and loops with VB.NET controls and iteration
- Separate operations into appropriate VB.NET procedures and functions
- Assemble multiple forms, modules, and menus into working VB.NET solutions
- Create VB.NET programs using multiple array techniques
- Build integrated VB.NET solutions using files and structures with printing capabilities
- Translate general requirements into data-related solutions using database concepts

Course Outcome (CO)

- CO 1: Know the working environment of visual basics using a control structure. Explain the basic Concepts of Program building block control statements and the basic concepts of function and procedure.
- CO 2: Understand the module, components and menu editor and its concept in a simple manner. Describe the functionality and properties of GUI based ActiveX Control with example programs.
- CO 3: Analyse a controls such text box, rich text box and etc...write coding easily. Discuss about graphics handling related control and properties.
- CO 4: Develop the project with database using ODBC, DAO, ADO and visual data manager.
- CO 5: Understand the MFC, Include the active controls and other control to perform particular task.



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7BITE1B : Computer Graphics :

Course Description:

The course introduces the basic theoretical underpinnings and concepts behind computer graphics and Expose student to algorithms, tools and techniques for implementing the same. This course is also designed to provide a comprehensive introduction to computer graphics leading to understand contemporary terminology, progress, issues, and trends.

Course Objectives

- Computer graphics are an intrinsic component of many modern software applications and are often essential to the success of these applications. The objective of this course is to familiarize the student with fundamental algorithms and data structures that are used in today's interactive graphics systems as well as programming and architecture of high-resolution graphics computers.
- The principles and practice of computer graphics are described from their mathematical foundations to the modern applications domains of scientific visualization, virtual reality, computer games and film animation.

Course Outcome (CO)

CO1: To provide comprehensive introduction about computer graphics system and design algorithms. To implement various graphics drawing algorithms.

CO2: To implement 2D transformations.

CO3: To make the students familiar with techniques of clipping and viewing, three dimensional graphics and three dimensional transformations.

CO4: To understand about various latest interactive multimedia devices, the basic concepts about text and text formats.

CO5: To provide comprehensive introduction about graphics and multimedia applications. To understand about digital audio, Digital video and animation.



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B.Sc. Information Technology

7BITE2B : Security In Computing :

Course Description:

It is an introduction to Security in Computing. This course examines the computing environment that satisfies the organizational needs of allocating application processing between workstation (the client) and server processors. The student will be exposed to terminology, concepts, and client/server programming techniques.

Course Objectives

- The course is designed in a way that a candidate can identify, analyze and remediate computer security breaches by learning and implementing the real-world scenarios in Cyber Investigations
- Laboratory, Network Security Laboratory and in Security and Penetration Testing Laboratory.
- Exhibit knowledge to secure corrupted systems, protect personal data, and secure computer networks in an Organization.
- Practice with an expertise in academics to design and implement security solutions.
- Understand key terms and concepts in Cryptography, Governance and Compliance.
- Develop cyber security strategies and policies
- Understand principles of web security and to guarantee a secure network by monitoring and analyzing the nature of attacks through cyber/computer forensics software/tools.

Course Outcome (CO)

CO 1: Upon successful completion of the programme, candidates will be familiar with cyber security landscapes and able to Analyze and evaluate the cyber security needs of an organization.

CO 2: Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation. Measure the performance and troubleshoot cyber security systems.

CO 3: Implement cyber security solutions and use of cyber security, information assurance, and cyber/computer forensics software/tools. Comprehend and execute risk management processes, risk treatment methods, and key risk and performance indicators

CO 4: Design and develop a security architecture for an organization.

CO5: Design operational and strategic cyber security strategies and policies.



ARUMUGAM PILLAI SEETHAI AMMAL COLLEGE

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Tiruppattur - 630 211.

B.Sc. Information Technology

7SBS5A5: Heritage and Tourism:

Course Description:

This course is to introduce students about the basic concepts and related texts in heritage and tourism studies. The students will learn the issues relating to the social and cultural impacts of modern tourism.

Course Objectives

- The course objectives are
- 1. To learn the definitions, terminology and concepts of cultural heritage and its relationships with tourism.
- 2. To learn the heritage tourism supply by examining different categories of heritage attractions and the contexts within which heritage exists and additional perspectives on scale from the supply perspective.
- 3. To learn the role of interpretation in cultural heritage sites and the relevance of such interpretation approaches to visitors.
- 4. To provide a framework to plan, design, and assess interpretation programs for tourists

Course Outcome (CO)

Upon successful completion of this course, students will be able

CO1. To have the knowledge of the cultural tourism, ecotourism and heritage sites.

CO2. To know tourism constructs and tourist roles.

CO3. To know about the tourists.

CO4. To understand the issues relating to tourism development.



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B.Sc. Information Technology

7SBS5A6 : Marketing and Sales Management:

Course Description:

The course is designed to provide students with an understanding of the processes involved in personal selling and sales management. The course describes the sales and marketing elements that enable a student to be an effective salesman.

Course Objectives

The Course objectives are

- 1. To acquire analytical skills for solving marketing related problems and challenges and to familiar with the strategic marketing management process
- 2. To learn the elements of sales force to be an effective component of an organization's overall marketing strategy.

Course Outcome (CO)

Upon successful completion of this course, students will be able

CO1. To understand the types, dimensions and plans of marketing.

CO2. To understand the segments, components and channels of marketing.

CO3. To understand the sales and customers.

CO4. To understand the steps of selling.

CO5. To understand the modern trends in marketing and sales.

CO6. To understand how the sales and sales management a role of all industries



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B.Sc. Information Technology

7BIT6C1 : Software Engineering:

Course Description:

This course is to gain a detailed understanding of the phases of the software development lifecycle; appreciate the problems that are associated with each of the phases, and be able to identify best practice for their solution. This course is to understand the issues surrounding the project management activities required for the development of a significant piece of software within a team environment and gain an appreciation of the complexities and impact of legislation on the professional work environment.

Course Objectives

- Software development practices: development models including plan driven; software reuse; configuration management, maintenance and evolution of large software systems. Requirements discovery and analysis: discovery techniques and identification of stakeholder; types of requirements, systems modelling; requirements validation. Software Design: design representation forms; system architectures; design patterns; Software Testing: unit, integration and systems testing, reviews and inspections. Software Quality and Process: software standards, process maturity models; COt estimation techniques; Measurement and Evaluation: Understanding the provenance of software engineering knowledge through measurement, metrics and empirical evaluation. Project Management: preparing to be a manager; effective teamwork and leadership; team development.

Course Outcome (CO)

Upon successful completion of this course, students will be able to

CO1. Have knowledge of current software development practices that is relevant and applicable to software development in industry

CO2. An appreciation of the challenges facing the software development industry in terms of the software development practices and processes

CO3. Have an appreciation of the challenges facing the software development industry in terms of the software development process and general project management

CO4. Have an understanding of project management theory and techniques

CO5. Be able to describe and analyse how each of the issues within software engineering Interrelate

CO6. Have gained additional knowledge of the problems faced in 'real world computing' from representatives of industrial software development companies

CO7. Have a detailed understanding of the important legal, ethical and moral issues relating to the building and use of computer applications

CO8. An ability to describe and analyse the different core facets of software engineering and how they interrelate

CO9. An ability to critically analyse systems with regard to the principles of software engineering so that this analysis aids the production and maintenance of software applications



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B.Sc. Information Technology

7BIT6PR : Project Work & Viva-Voce:

Course Description:

The final year project is one of the most important aspects of the B.Sc. computer science degree. The B.Sc. Computer Science curriculum is based on theoretical and laboratory. Besides that students complete a software project in the final year of the program.

Course Objectives

- The students are prepared to serve as project leaders and team members who add value through the project course. To expose student to industry-standard project practices, through a real-life project work under time and deliverable constraints, applying the knowledge acquired through various courses.
- 1. The students will be allowed to work on any project based on the concepts studied in core/elective courses.
- 2. The project work should be compulsorily done in the college only under the supervision of the department staffs.
- 3. The combined project shall be undertaken by the students as a team of two.
- 4. The number of teams should be equally assigned to existing Staff members.
- 5. The following list of parameters taken into account for the evaluation of Project work and Viva-voce.

Course Outcome (CO)

Upon successful completion of this course, students will be able

CO1. To provide an opportunity to apply the knowledge gained through various courses in solving a real life problem.

CO2. To provide an opportunity to practice different phases of software/system development life cycle.

CO3. To introduce the student to a professional environment and/or style typical of a global IT industry,

CO4. To provide an opportunity for structured team work and project management.

CO5. To provide an opportunity for effective, real-life, technical documentation.

CO6. To provide an opportunity to practice time, resource and person management.



ARUMUGAM PILLAI SEETHAI AMMAL COLLEGE

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B.Sc. Information Technology

7BIT6C2 : Operating System and System Software :

Course Description:

Covers the classical internal algorithms and structures of operating systems, including CPU scheduling, memory management, and device management. Considers the unifying concept of the operating system as a collection of cooperating sequential processes. Covers topics including file systems, virtual memory, disk request scheduling, concurrent processes, deadlocks, security, and integrity.

Course Objectives

- To understand the services provided by and the design of an operating system.
- To understand the structure and organization of the file system.
- To understand what a process is and how processes are synchronized and scheduled.
- To understand different approaches to memory management.
- Students should be able to use system calls for managing processes, memory and the file system.
- Students should understand the data structures and algorithms used to implement an OS.

Course Outcome (CO)

Upon successful completion of this course, students will be able

CO 1: Understands the different services provided by Operating System at different level.

CO 2: They learn real life applications of Operating System in every field.

CO 3: Understands the use of different process scheduling algorithm and synchronization techniques to avoid deadlock.

CO 4: They will learn different memory management techniques like paging, segmentation and demand paging etc.

CO 5: They will learn different Disk management and other issues



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B.Sc. Information Technology

7BIT6C3 : Principles of Multimedia :

Course Description:

This course aims to introduce the basic multimedia elements namely text, sound, image, video, animation, and to show how to sew these elements together to produce a multimedia project using the current computer technology. It is also designed to provide students with the knowledge of the hardware/software and file types involved in multimedia technology. Upon successful completion of the course, students should be able to understand the major media elements in detail; gain experience of some commercially used multimedia software; and develop good-quality multimedia products.

Course Objectives

- This course aims to introduce the fundamental elements of multimedia. It will provide an understanding of the fundamental elements in multimedia. The emphasis will be on learning the representations, perceptions and applications of multimedia. Software skills and hands on work on digital media will also be emphasized. On completion of the subject,
- The students will understand the technologies behind multimedia applications and master the skills for developing multimedia projects. After successfully completing the module student should be able to:
- Summarize the key concepts in current multimedia technology.
- Create quality multimedia software titles.

Course Outcome (CO)

Upon successful completion of this course, students will be able

CO 1. Learn how learning theories influence the development of multimedia product

CO 2. Explore a brief history of multimedia in education; Develop competencies in designing and creating interactive multimedia applications by explaining how elements of these applications reflect a theory of how learning will occur;

CO 3. Work with all aspects of text, audio, images and video; Learn the phases involved in multimedia planning, design and production; Be able to use various multimedia authoring tools

CO 4. Be able to design and create interactive multimedia products develop competencies in designing and producing instructional multimedia 10. Apply contemporary theories of multimedia learning to the development of multimedia products.

CO 5. Evaluate existing multimedia products that can be used to design instructional and informational material. Analyze instructional and informational media (print materials, audio/visual materials and/or web-based materials, games/simulations, etc.)



ARUMUGAM PILLAI SEETHAI AMMAL COLLEGE

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B.Sc. Information Technology

7BITE3A : Mobile Communication :

Course Description:

This course aims to teach the students the principles of mobile communication, mobile sets, and mobile networks, since the mobile networks are very important sector of telecommunication business, these concepts are crucial for the students in telecommunication engineering, after completing this course successfully, the student will be able to demonstrate the mobile network (for both GSM/UMTS) structure.

Course Objectives

- To expose the students to understand mobile radio communication principles and to study the recent trends adopted in cellular systems and wireless standards.
- This course offers an insight into the concepts of mobile and wireless data communication technologies. The objective of this course is to enable the student to understand the emerging technologies of wireless and mobile communications and simulate them.
- Understand the new trends in mobile/wireless communications networks.
- Understand multiple radio access techniques. ·analyse various routing algorithms used in mobile/wireless networks.
- Identify the issues in transport and application layers.

Course Outcome (CO)

Upon successful completion of this course, students will be able

COS 1: General knowledge of Mobile and Wireless Communication technology. Define Mobile Computing and look at current trends. Apply advanced data communicating methods and networking protocols for wireless and mobile environments.

COS 2: Wireless sensor network system in different fields - Design and development of sensor nodes, wireless sensor network and sensor based automatic devices. Critically analyse security issues of mobile and wireless computing systems

COS 3 : GSM network architecture, handover principles in GSM, GPRS, EGSM, system capacity and network planning, UMTS network architectures, services offered by UMTS, the integration of UMTS and GSM systems

COS 4 : Discuss about WiMAX, DECT Phones, VoIP, and WiFi,,BLUETOOTH,HIPER LAN Mobile transport layer and network layer.

COS 5: working of WAP (Wireless Application Protocol), Design of WEB pages by using HTTP,HTML,CSS.



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B.Sc. Information Technology

7SBS6B4: Fruit and vegetable Preservation Skills:

Course Description:

This course provides education and training in Fruit and vegetable preservation.

Course Objectives

- 1. To understand the science, principles and techniques involved in fruits and vegetables preservation techniques
- 2. To impart thorough knowledge on the technical skills in various aspects of food processing and preservation

Course Outcome (CO)

Upon successful completion of this course, students will be able

CO1. To understand the various preservation methods.

CO2. To know preservation equipment and containers.

CO3. To know about vegetables preservation techniques.

CO4. To know about Fruits preservation techniques

CO5. To understand the science involved in preservation.