PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES
COURSE OUTCOMES

B.Sc Computer Science

OUTCOMES:

At the end of Under Graduate Program at St. Thomas College (Autonomous), a student will have obtained:

PO1	Critical Thinking: Ability to take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives
PO2	Effective Communication: Ability to speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology
PO3	Effective Citizenship: Ability to demonstrate empathetic social concern and equity-centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering
PO4	Environment and Sustainability: Ability to understand the issues of environmental contexts and sustainable development
PO5	Ethical Living: Ability to recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them
PO6	Social Interaction: Ability to elicit views of others, mediate disagreements and help reach conclusions in group settings
PO7	Problem Solving and Analytical Skills: Ability to think rationally, analyze situations and solve problems adequately

Program Specific Outcomes:

At the end of B.Sc Computer Science at St. Thomas College (Autonomous), Thrissur, a student will have developed:

PSO1	Understand the design and internal design issues of a Computing system, Operating system and Database Management Systems.
PSO2	Create problem solving capabilities through programming language tools viz. C, Java, Javascript, PHP , Android and Python.
PSO3	Understand the design and internal design issues of a Computing system, Operating system and Database Management Systems.
PSO4	Understand data-based reasoning through translation of data into abstract concepts using computing technologies

Course Outcomes:

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BCS1B01- Computer Fundamentals & HTML

At the end of this course, a student will have developed ability to:

CO1	Understand basic building blocks of computers - Hardware and Software
CO2	Familiarize with the basics of Computer Organization
CO3	Understand various Number Systems
CO4	Evaluate Boolean Expressions.
CO5	Understand the stages of problem- solving techniques
CO6	Design flowchart and algorithm.
CO7	Develop static Web pages including CSS.

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BCS2B02- Problem Solving using C

At the end of this course, a student will have developed ability to:

CO1	Familiarize with the IDE
CO2	Understand program Constructs in C
CO3	Understand different operators and control structures in C
CO4	Understand concepts of arrays, structures and union
CO5	Implement the concepts of functions : in-built and user defined
CO6	Understand the concept of Dynamic Memory Allocation
CO7	Implement files using C
CO8	Understand command line arguments in C

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BCS2B03- Programming Laboratory I: HTML and Programming in C

At the end of this course, a student will have developed ability to:

CO1	Construct programs relating to the theory portions covered in BCS1B01 Computer Fundamentals & HTML
CO2	Construct programs relating to the theory portions covered in BCS2B02 Problem Solving using C

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A11- Python Programming

At the end of this course, a student will have developed ability to:

CO1	Familiarize Python IDLE and its features.
CO2	Understand basic constructs in python programming.
CO3	Express different Decision Making statements and Functions in python.
CO4	Implement lists, tuples, and dictionaries in Python program
CO5	Carry out string operation in Python.
CO6	Develop programs in Python to reflect real world problems.

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A12- Data Communication and Optical Fibers

At the end of this course, a student will have developed ability to:

CO1	Introduce basic concepts of data communication.
CO2	Familiarize multiplexing and its applications.
CO3	Recognize data link control and protocols.
CO4	Identify LANs, viz., Ethernet, token ring,token bus, FDDI.
CO5	Compare switching techniques.
CO6	Introduce optical fiber communication and its applications.
CO7	Familiarize optical sources and detectors.

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BCS3B04- DATA STRUCTURES USING C

At the end of this course, a student will have developed ability to:

CO1	To categorize different data structures and its operations.
CO2	Analyze the choice of data structures and algorithm that impacts the performance of program
CO3	To Identify the notations for measuring complexities.
CO4	static and dynamic memory management.
CO5	Evaluating expressions using algorithms.
CO6	Apply searching and sorting techniques.
CO7	Identify the real world application areas of data structures.

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A13- Microprocessors Architecture and Programming

At the end of this course, a student will have developed ability to:

CO1	Understanding the General Architecture of 8085 Microprocessor
CO2	Identifying basic Addressing modes and Timing Diagram
CO3	Familiarising Assembly Language Programming
CO4	Recognising different Programmable peripheral Devices
CO5	Comparison of 8086 and 8088 Microprocessors Architecture

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A14- Sensors and Transducers

At the end of this course, a student will have developed ability to:

CO1	Understand transducers, its types and characteristics.
CO2	Familiarize the concepts of Thermal sensors and its types
CO3	Summarize Pressure Transducers
CO4	Understand Level Transducers and Mass Capacitive Level Gauges
CO5	Familiarize the concepts of Flow Transducers and Bernoulli's principle
CO6	Comprehend the principles of Sensors and its different types

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BCS4B05- Database Management System and RDBMS

At the end of this course, a student will have developed ability to:

CO1	Differentiate file system and database management system
CO2	Design ER Diagrams
CO3	Understand concept of Relational Data Model
CO4	Create a normalized relational database model.
CO5	Carry out SQL query.
CO6	Understand concept of transaction processing (ACID properties) and concurrency control.
CO7	Introduce concepts of locks in database management system.
CO8	Implement programming with SQL

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BCS4B06- Programming Laboratory II : Data Structures and RDBMS

At the end of this course, a student will have developed ability to:

CO1	Construct programs relating to the theory portions covered in Data Structures using C
CO2	Construct programs relating to the theory portions covered in BCS4B05 Database Management System and RDBMS

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BCS5B07- Computer Organization and Architecture

At the end of this course, a student will have developed ability to:

CO1	Understanding Basic Logic Gates
CO2	Familiarising Combinational and Sequential Logic Circuit
CO3	Categorizing various Counters
CO4	Considerate Basic Computer Organization and Design
CO5	Comprehend the Microprogrammed control Unit
CO6	Memory Classification

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BCS5B08- Java Programming

At the end of this course, a student will have developed ability to:

CO1	Understand the concepts of OOPs
CO2	Interpret the basic control structures and data types in Java
CO3	Implement classes and objects, packages and interfaces
CO4	Familiarize Streams, Threads and Exceptions
CO5	Implement JDBC and Applets
CO6	Design GUI Applications using AWT

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BCS5B09- Web Programming Using PHP

At the end of this course, a student will have developed ability to:

CO1	Design content based web pages with HTML,CSS
CO2	Apply client side validations with JavaScript.
CO3	Execute Server Side Scripts using web server.
CO4	To Identify the usage of advanced functions of PHP like sessions,cookies,headers etc.
CO5	Implementation of database connectivity with PHP using MySql AND POSTGRE
CO6	Implementation of AJAX in PHP

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BCS5B10- Principles of Software Engineering

At the end of this course, a student will have developed ability to:

CO1	Define the basic concepts of software and software engineering
CO2	Familiarize software process and stages of development environment.
CO3	Understand requirement analysis
CO4	Design UML diagram to portray the behaviour and structure of the system.
CO5	Understand the programming paradigm, coding styles and guidelines.
CO6	Discuss the quality checking mechanism for software process and product.
CO7	Describe the modern methods for re-engineering and maintenance.

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BCS5D01- Introduction to Computers and Office Automation

At the end of this course, a student will have developed ability to:

CO1	Understanding Different Types of Computers
CO2	Familiarizing Word Processor
CO3	Identifying Different Functions and Implementing it in Worksheet
CO4	Practising Presentation Skills Using MsPowerpoint

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BCS5D02- Web Designing

At the end of this course, a student will have developed ability to:

CO1	Understand and apply HTML tags.
CO2	Design content based web pages by applying styles.
CO3	Apply client side validations with Javascript.
CO4	Familiarize with HTML editor

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BCS5D03- Introduction to Problem Solving and C Programming

At the end of this course, a student will have developed ability to:

CO1	Familiarize IDE and C Language program Constructs
CO2	Understand the different operators in C
CO3	Familiarize decision making statements
CO4	Understand iterative statements
CO5	Implement Arrays, Structures and Union

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BCS5D04- INTRODUCTION TO DATA ANALYSIS USING SPREADSHEET

At the end of this course, a student will have developed ability to:

CO1	Familiarize MS Excel
CO2	Understand Objects in Worksheets
CO3	Apply Pivot tables in analytics
CO4	Use Formulae and Function

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BCS6B11- ANDROID PROGRAMMING

At the end of this course, a student will have developed ability to:

CO1	Familiarize Integrated Development Environment for Android Application Development.
CO2	Understand the structure and life cycle of Android Application.
CO3	Impart a basic understanding of resources, content providers, URIs, intents.
CO4	Design User Interfaces and Layouts of Android App.
CO5	Implement Android App with menus, fragments, and action bar.
CO6	Create Android Database Application using SQLite.

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BCS6B12- OPERATING SYSTEMS

At the end of this course, a student will have developed ability to:

CO1	Understand role of Operating System in terms of process, memory, scheduling
CO2	Familiarize Shell commands
CO3	Understand the concept of a process
CO4	Evaluate performance of process scheduling algorithms and IPC.
CO5	Analyze the concepts of memory management techniques.
CO6	Understand the concepts of system Security

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BCS6B13- COMPUTER NETWORKS

At the end of this course, a student will have developed ability to:

CO1	Understanding different Computer Networks and Topology
CO2	To Learn Various Protocol used in Data Communication
CO3	Categorizing Various Error Detection and Correction Methods
CO4	Familiarizing Different Networking and InterNetworking Devices
CO5	Comparative Study of ISO/OSI and TCP/IP Network Model
CO6	Introductory Study of cryptography and Network Security

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BCS6B14- Programming Laboratory III: Java and PHP Programming

At the end of this course, a student will have developed ability to:

CO1	Construct programs relating to the theory portions covered in Java Programming
CO2	Construct programs relating to the theory portions covered in Web programming using PHP

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BCS6B15- Programming Laboratory IV: Android and Linux Shell Programming

At the end of this course, a student will have developed ability to:

CO1	Construct programs relating to the theory portions covered in BCS6B11 - Android Programming
CO2	Construct programs relating to the theory portions covered in BCS6B12: Operating Systems

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BCS6B17- Industrial Visit and Project Work

At the end of this course, a student will have developed ability to:

CO1	Understand programming language concepts and software engineering principles to develop a software that solves real life problems in industry/ commercial environment

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BCS6B16A - SYSTEM SOFTWARE

At the end of this course, a student will have developed ability to:

CO1	Understand three types of translators-linker and loader, assembler and compiler
CO2	Familiarize the concept of macros and its design issues.
CO3	Understand loaders and linkers
CO4	Introduce different phases of compilers
CO5	Familiarize the lex and yacc.

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BCS6B16B - MACHINE LEARNING

At the end of this course, a student will have developed ability to:

CO1	Understand basic and advanced data structures dealing with algorithm development
CO2	Apply search and sort techniques concord with real-time computational problems
CO3	Analyse advanced data structures dealing with algorithm development viz. stacks, queues, lists, trees and graphs
CO4	Develop algorithmic approaches in real time computational environment
CO5	Calculate the performance of algorithm using time and space complexity
CO6	Evaluate the role of Hashing and Hash tables
CO7	Analyse non-linear data structure tree
CO8	Understand representation, operations and traversal mechanisms to implement the concept of a graph.

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BCS6B16C - DISCRETE STRUCTURES

At the end of this course, a student will have developed ability to:

CO1	Understand propositional logic and boolean algebra
CO2	Introduce sets, relations and functions
CO3	Familiarise principles of combinatorics
CO4	Understand Pigeonhole principle, Inclusion-Exclusion Principle
CO5	Familiarise the concept of partitions and distributions

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BCS6B16D - COMPUTER GRAPHICS

At the end of this course, a student will have developed ability to:

CO1	Introduce basic concepts of computer graphics and display devices
CO2	Analyse the drawing and filling algorithms
CO3	Understand 2D transformations
CO4	Analyse clipping algorithms
CO5	Familiarize the colour models and GIMP

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BCS6B16E - TECHNICAL WRITING

At the end of this course, a student will have developed ability to:

CO1	Understanding the basic concepts of technical communication.
CO2	Familiarize with constituents of technical written communication
CO3	Identifying different forms of technical communication
CO4	Discussing reports,Technical Proposal,E-Media content writing
CO5	Attaining the soft skills

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BCS6B16F - Fundamentals of Life Skill Education

At the end of this course, a student will have developed ability to:

CO1	Familiarizing Life skill education
CO2	Identifying various Communication skills
CO3	Acquiring interpersonal communication
CO4	Understanding Career planning & career guidance
CO5	Creating a resume
CO6	Comparing Emotional Intelligence and Social Intelligence
CO7	Managing Stress and strain