

ALLIED COURSE OFFERED BY DEPARTMENT



SENGAMALA THAYAAR EDUCATIONAL TRUST WOMEN'S COLLEGE
(AUTONOMOUS)
SUNDARAKKOTTAI, MANNARGUDI - 614016.
(For the candidates admitted in the academic year 2025 – 2026)
PG AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE

ALLIED COURSE

S.NO	COURSE	ADMITTED IN THE ACADEMIC YEAR	SEMESTER	SUBJECT CODE	SUBJECT NAME
1.	B.Sc., MATHS & PHYSICS	2025-2026	III	U25ACS301	Introduction to Computer and Office Automation
			IV	U25ACS403	Fundamentals of C Programming
2.			RUNNING LAB	U25ACS302P	Office Automation Lab

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE

B.Sc., COMPUTER SCIENCE

ALLIED COURSE-III: Introduction to Computer and Office Automation

Ins. Hrs. /Week: 2

Course Credit:2

Course Code: U25ACS301

UNIT- I: Fundamentals of computer (6 Hours)

Introduction - Characteristics of Computers - Evolution of Computers - **Generation of computers:** First Generation-Second Generation-Third Generation-Fourth Generation-Fifth Generation-Types of computers and its features – Applications of computer - Functional Components of a computer.

UNIT –II: Hardware and Software (6 Hours)

Block diagram of computer - **Hardware and its Types:** Input and Output devices- Different type of printers - Memory and storage devices-Classification of Storage Device-Characteristics of Storage devices -Different ports and its uses – **Software and its classification:** Application Software-System Software - **Networks :** LAN- WAN - Client-Server.

UNIT- III: Word Processing (6 Hours)

Typing- Editing- Proofing & Reviewing- Formatting Text & Paragraphs Automatic Formatting and Styles - Working with Tables - Tables – Columns – Labels - Plotting, editing and Filling drawing objects Bookmark – Header & Footer - Graphics and Frames - Mail Merge – Formatted output and Report generation Printing Documents-Working with Internet.

UNIT- IV: Excel Spreadsheet (6 Hours)

Designing a Work Sheet and Work Books-Working & Editing in Workbooks-Appling Formulas- Compute sums, averages, min, max, percentages - Creating Formats & Links –Apply Conditional Formatting- Formatting a Worksheet & creating graphic objects - Creating Charts (Graphs) – Formatting and analyzing data - Organizing Data in a List Sharing & Importing Data - Printing.

UNIT- V: PowerPoint Presentations (6 Hours)

Getting started in PowerPoint- Create a new presentation-Modify presentation themes-Add and edit text to slides-Add new slides to a presentation.–Designing slides- Insert clipart images and shapes to slides-Insert and modify tables and charts- Previewing a slide show - Adding picture & graph – Adding sound & video - Adding auto shape – Animating objects.

Total Lecture Hours-30

COURSE OUTCOMES

On the successful completion of the course, the students will be able to,

1. Understand the basics of computers
2. Create documents using MS Word
3. Work with tables, graphs in MS-Office
4. Gain practical exposure on spread sheet
5. Operate with MS-office Power point

TEXT BOOKS

1. Michael Miller 2010, Absolute Beginner's Guide to Computer Basics, 5th Edition Prentice Hall, United States. .
2. Ram . B and Sanjay Kumar 2018, Computer Fundamentals: Architecture and Organization , 6th Edition New Age International Publisher, New Delhi.

REFERENCE BOOKS

1. Deborah Hinkle 2003, Microsoft Office 2003 PowerPoint: A Professional Approach, comprehensive w/ Student CD, McGraw-Hill/Irwin- New Delhi.
2. Nellai Kannan .C 2002, MS-Office, Nels Publications, Tamil Nadu.
3. Pasewark/Pasewark, Robin Romer.M, Jessica Evans , Katherine Pinard.T , Rachel Biheller Bunin 2010, Microsoft Office 2010: Introductory -1st Edition Published by Cengage Learning, India.

E-RESOURCES

1. <https://ptgmedia.pearsoncmg.com/images/9780735623026/samplepages/9780735623026.pdf>
2. https://www.dit.ie/media/ittraining/msoffice/MOAC_Excel_2016_Core.pdf
3. <https://ptgmedia.pearsoncmg.com/images/9780735697799/samplepages/9780735697799.pdf>

MAPPING WITH PROGRAMME OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

CO	Pos										PSOs				
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5
CO 1	3	2	2	2	3	3	2	3	3	3	3	3	2	3	3
CO 2	3	3	3	2	3	3	2	3	3	3	3	3	2	3	3
CO 3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3
CO 4	3	3	2	3	3	2	2	3	3	3	3	3	2	3	3
CO 5	3	3	3	2	3	2	3	3	3	3	3	3	2	3	3

S-Strong-3 M-Medium-2 L-Low-1

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ALLIED PRACTICAL-IV: OFFICE AUTOMATION LAB

Ins. Hrs. /Week: 2

Course Credit: 2

Course Code: U25ACS302P

I. MS-WORD

1. Text Manipulation: Write a paragraph about your institution and Change the font size and type, Spell check, Aligning and justification of Text
2. Bio data: Prepare a Bio-data.
3. Find and Replace: Write a paragraph about yourself and do the following. Find and Replace - Use Numbering Bullets, Footer and Headers.
4. Tables and manipulation: Creation, Insertion, Deletion (Columns and Rows). Create a mark sheet.
5. Mail Merge: Prepare an invitation to invite your friends to your birthday party. Prepare minimum five letters.

II. MS-EXCEL

1. Data sorting-Ascending and Descending (both numbers and alphabets)
2. Mark list preparation for a student
3. Individual Pay Bill preparation.
4. Invoice Report preparation.
5. Drawing Graphs. Take your own table.

III. MS-POWERPOINT

1. Create a slide show presentation for a seminar.
2. Preparation of Organization Charts
3. Create a slide show presentation to display percentage of marks in each semester for all students
 - a) Use bar chart (X-axis: Semester, Y-axis: % marks).
 - b) Use different presentation template different transition effect for each slide.

Total Lecture Hours-60

COURSE OUTCOMES

On the successful completion of the course, the students will be able to,

1. Exhibit improved understanding of computer operations
2. Create professional word documents
3. Design the excel spread sheets
4. Draw charts and graphs
5. Design their own power point presentations

TEXT BOOKS

1. Michael Miller 2010, Absolute Beginner's Guide to Computer Basics, 5th Edition Prentice Hall, United States.
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ALLIED COURSE – IV: Fundamentals of C Programming

Ins. Hrs. /Week: 3

Course Credit: 2

Course Code:U25ACS403

UNIT- I: Overview of C

(10 Hours)

History of C - Importance of C - Basic structure of C programs- Character set - **C Tokens:** Keywords and identifiers - Constants - Variables - Data types - Declaration of variables - Declaration of storage classes - Assigning values to variables- Defining symbolic constants- **Operators and expression:** - Types of Operators -Arithmetic Expressions - Evaluation of expressions - Precedence of arithmetic operators - Type conversions in expressions - Operator precedence and associativity

UNIT-II: Decision making and Branching

(9 Hours)

Simple IF, IF-ELSE, Nesting of IF-ELSE, ELSE-IF ladder, Switch statements - GOTO statements- **Decision making and looping:** WHILE statement - DO statement - FOR statement - Jumps in loops- **Arrays:** Definition & Declaration - One dimensional - Two dimensional - Multi dimensional arrays - Dynamic arrays.

UNIT- III: Character arrays and strings

(8 Hours)

Introduction - Declaring and initializing string variables - Reading strings from terminal - Writing strings to screen - String handling functions - Table of strings- **User Defined functions:** Introduction - Need for user - Defined function - Elements of user Defined function - Definition of functions - Return values and their types - Function calls – Function declaration - All category of functions - Nesting of functions - Recursion.

UNIT- IV: Structures and Unions

(9 Hours)

Introduction - Defining a structure - Declaring structure variables - Accessing structure members - Structure initialization - Copying and comparing structure variables - Arrays of structures - Arrays within structures - Structures within structures - Structures and functions – Defining and accessing Unions

UNIT- V: Pointers

(9 Hours)

Pointers: Introduction – Understanding pointers - Accessing the address of a variable - Initializing of pointer variables. Chain of pointers - Pointer expressions – Arrays of pointers - Pointers to functions – Pointer and structures.

Total Lecture Hours-45

COURSE OUTCOMES

On the successful completion of the course, the students will be able to,

1. Understand the basic terminology used in computer programming
2. Design programs involving decision structures, loops and operators
3. Understand the use of functions in programming and Arrays
4. Understand the dynamics of memory by the use of pointers and Structures
5. Use different data structures and create/update basic data files

TEXT BOOKS

1. Balagurusamy E. 2018, Programming in ANSI C, Eighth Edition, McGraw-Hill, New Delhi, India.
2. Deitel.H.M 2010, C:How to program, 7th Edition, Pearson Education, London, England.

REFERENCE BOOKS

1. Bichkar.R.S 2012. Programming with C, University Press, Cambridge, England.
2. Herbert Schildt 2017. C, The Complete Reference, Fourth Edition, McGraw Hill Education, New Delhi, India.
3. Mike Mcgrath 2018. C Programming in Easy Steps, Fifth Edition, In Easy Steps Limited, Leamington Spa, Warwickshire.

E-RESOURCES

1. <https://www.learnpick.in/prime/documents/ppts/details/42/structures-in-c>
2. <https://cutt.ly/pbhDNFx>
3. <http://www.d.umn.edu/~rmaclin/cs1622/Chapter09-10/Chapter09-10.PPT>

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CO 4	3	3	3	2	3	3	2	3	2	3	3	3	3	3	3
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S-Strong-3

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