

CCS2401 Data Structures and Algorithms

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
CCS2303	2	4	2	2	0	3

COURSE AIM

- Understand the difference between static and dynamic data types.
- Understand the concept of pointers & dynamic memory allocation.
- Acquire practical programming experience using dynamic structures.
- Analyze the organizations of proposed data structures and how to use them efficiently.
- Apply the acquired knowledge in many practical applications like database, network, compiler and others.
- Demonstrate the ability to design abstract data types using various data structures.

COURSE WEEKLY CONTENTS

- 1 Introduction to Data Structures and Algorithms
- 2 Algorithm Analysis and Big-O Notation
- 3 Linked Lists part 1
- 4 Linked Lists part 2 and Circular and Double Linked Lists
- 5 Stacks
- 6 Queues
- 7 Trees
- 8 Binary Search Trees
- 9 Graphs
- 10 Graph Algorithms
- 11 Hashing
- 12 Heaps
- 13 Introduction to Algorithm Design Techniques part 1
- 14 Introduction to Algorithm Design Techniques part 2
- 15 Revision

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	←		30	MARKS		→	30
8 to 12	←		20	MARKS		→	20
1 to 15	←		10	MARKS		→	10
16 or 17	40	Final					40

REFERENCES

Textbook Noel Kalicharan, Data Structures in C, Create Space Independent Publishing Platform.