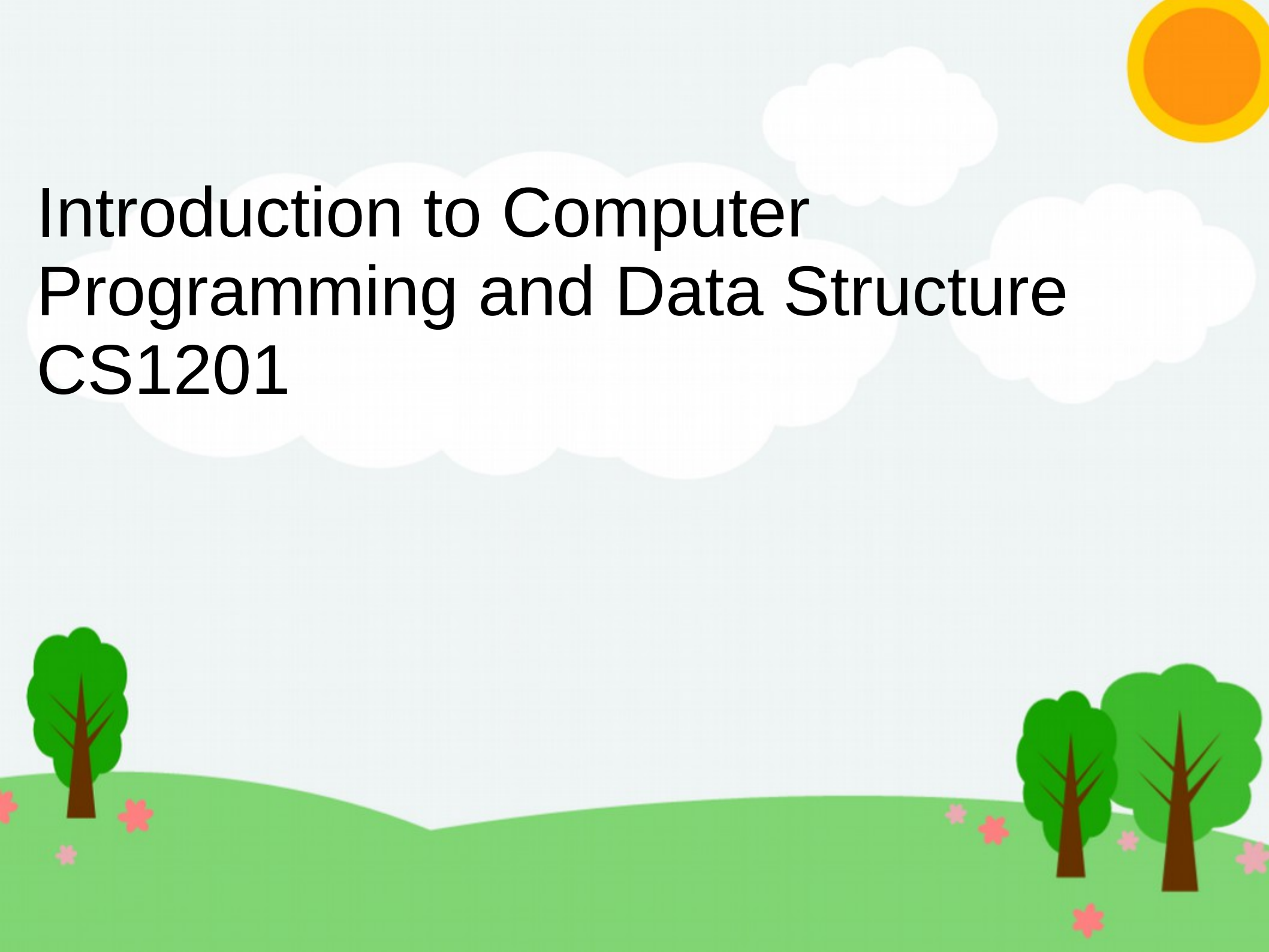
Introduction to Computer Programming and Data Structure CS1201



Course Objectives

- To learn and implement the art of writing algorithm and program using C programming structure
- To gain the skills of using various constructs of C programming language such as variables, control structures, loops, arrays, pointers, and structures.
- To learn about basic data structures and their implementations.
- To identify the role of various data structures in context of writing efficient programs.
- To develop skills to apply appropriate data structures in problem solving.

Course Outcomes

- Students will able to write algorithm for a given problem and implement using C programming language
- Students will be able to apply various elements of C programming language such arrays, pointers in problem solving
- Students will gain the basic knowledge about types for data structure, implementation and applications.
- Students will be able to identify the strength and weakness of different data structures.
- Students will be able to use the appropriate data structure in context of solution of given problem.
- Student will be able to develop overall programming skills which require to solve given problem.

Prerequisites

- Arithmetic fundamentals
- Mathematical logic
- Basics of computers

Books and Study Materials

- Computer Fundamentals Concepts, Systems & Applications – P.K Sinha
- Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice Hall of India.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw-Hill.
- Seymour Lipschutz, Data Structures, Schaum's Outlines Series, Tata McGraw-Hill.
- Ellis Horowitz, Satraj Sahni and Susan Anderson-Freed, Fundamentals of Data Structures in C, W. H. Freeman and Company.
- R. G. Dromey, How to Solve it by Computer, Prentice-Hall of India
- Mastering C, Venugopal, Prasad
- Let US C, Yashwant Kanitkar
- Data structures using C, Reema Thareja
- Data structures using C, Tanenbum, Langsam, Augenstein
- Geeksforgeeks (Not completely reliable)
- W3school (Not completely reliable)
- Javapoint (Not completely reliable)

Evaluation

- Mid semester exam. : 30 marks
- End semester exam. : 50 marks
- Internal : 20 marks
  - Quiz (in class) – 5 marks
  - Programming assignment – 5 marks
  - DS demonstration – 5 marks
  - Attendance – 5 marks
- 75% attedance is the qualifying criteria for the above evaluation process