Welcome to

CSE 1107
Discrete Mathematics
Credits: 3

CSE 1107: Discrete Mathematics

Credits: 3.0 Prereq.: None Contact Hours: *3L+0T+0P Hrs/Week*

Course Teachers

Course Contents

Introduction and review of Sets & Functions, Relations; Sequences and summations; Number theory; Combinatorics; Recurrence relations and Generating functions; Algebraic structures: Semi groups, groups and permutation groups, ring, field.

Propositional calculus and predicate calculus; Mathematical reasoning: Induction, Contradiction and recursion; Graph theory; Trees.

Required Books (Textbooks)

Kenneth H. Rosen, "Discrete Mathematics and Its Applications," McGraw-Hill, 7th edition, 2012.

Susanna S. Epp, Discrete Mathematics with Applications, 4th edition,

Recommended Books(Reference)

Ralph Grimaldi, “Discrete and Combinatorial Mathematics: An Applied Introduction”, 4th edition, 2008

Zamir Bavel, “Math Companion for Computer Science,” Prentice-Hall, 1982.

S. Lipschutz and M. Lipson, “Discrete Mathematics”, Schaum’s Outlines Series, 2nd edition, 1999.

Kolman, Busby and Ross, “Discrete Mathematical Structures”, 5th Ed. Pearson (Prentice Hall), 2004.

Overall Aims of the Course

Upon completing this course, the student will have learned, through appropriate classroom and assignment or tutorial experiences, the following:

- Understanding of the definitions and properties of a variety of specific types of discrete structures.
- Correctly read, represent and analyze various types of discrete structures using standard symbols and notations.
- Studying the concepts of relations and functions.
- A basic proficiency in propositional and predicative logic, reasoning and the methods of proofs.

Overall Aims of the Course

- A basic proficiency in number theory and its applications.
- Exploring the basics of Algebraic structures such as semi groups, groups and permutation groups.
- A basic understanding of Graph theories, Trees and recurrent relations.
- A basic proficiency in exploring the basics of induction, contradiction and recursion techniques.