MICHAEL AND CECILIA IBRU UNIVERSITY

CSC 205(DISCRETE STRUCTURE)

3 UNITS COURSE

FIRST SEMESTER, 2017/2018 SESSION

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Assistant Lecturer

Course Outline

Week One: Basic Set Theory, Basic definitions on Relations, equivalence Relations Partition

Week two: Functions, properties of functions

Week three: Partially Ordered Sets, Lattices and Boolean algebra.

Week four: Logic, Graph theory- Directed and undirected graphs.

Week five: Graphs Isomorphism, Basic Graph Theorems.

Week six: Matrices- Integer and real Matrices, Boolean matrices,

Week seven: Matrices med M, path matrices.

Week eight: Adjacency Vectors/Matrices: Path adjacency matrix, numerical and Boolean adjacency matrices.

Week nine: Application to counting, Discrete Probability Generating Functions

Learning objectives:

By the end of this course, students should be able to:

1. describe set
2. identify and describe set notations and operations
3. identify and describe relations and its properties
4. identify and describe functions and its types
5. identify and apply POSET, Lattices and Boolean algebra
6. work with Logic and basic graph theorems
7. work with matrices, and vectors applications
8. use application of counting

Assessment

Assessment is strictly based on how well the student will perform in class activities, Lab activities, and other activities. Performance will be monitored throughout the semester. Following are the tools used to measure the competency level of the student:

- Class quizzes: This will be conducted at the end of each unit taught.
- Class presentation: Each student (group) is required to present on latest technology related topic. There will be at least one presentation per student (group).
- Laboratory exercises
- Home Assignments

 Projects

Students are expected to pay attention in class.

Resources

Textbook, computer system, lecture notes, Laboratory exercises