COURSE DETAIL

DISCRETE STRUCTURES
Country Singapore
Host Institution National University of Singapore
Program(s) National University of Singapore
UCEAP Course Level Lower Division
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 11
UCEAP Course Suffix
UCEAP Official Title DISCRETE STRUCTURES
UCEAP Transcript Title DISCRETE STRUCTURES
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course introduces mathematical tools required in the study of computer science. Topics include: Logic and proof techniques: propositions, conditionals, quantifications; relations and functions: equivalence relations and partitions; partially ordered sets; Well-Ordering Principle; function equality; Boolean, identity, inverse functions; Bijection; mathematical formulation of data models (linear model, trees, graphs); counting and combinatoric: Pigeonhole Principle, Inclusion-Exclusion Principle; number of relations on a set, number of injections from one finite set to another, diagonalisation proof: An infinite countable set has an uncountable power set; Algorithmic proof: An infinite set has a countably infinite subset; subsets of countable sets are countable.

Language(s) of Instruction
English

Host Institution Course Number
CS1231

Host Institution Course Title
DISCRETE STRUCTURES

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Computer Science

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