COURSE DETAIL

DESIGN AND ANALYSIS OF ALGORITHMS
Country Singapore
Host Institution National University of Singapore
Program(s) National University of Singapore
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 111
UCEAP Course Suffix
UCEAP Official Title DESIGN AND ANALYSIS OF ALGORITHMS
UCEAP Transcript Title DESIGN & ALGORITHMS
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course introduces different techniques of designing and analyzing algorithms. The course covers the framework for algorithm analysis, such as lower bound arguments, average case analysis, and the theory of NP-completeness. In addition, various algorithm design paradigms are studied. The course serves two purposes: to improve ability to design algorithms in different areas, and to prepare for the study of more advanced algorithms. The course covers lower and upper bounds, recurrences, basic algorithm paradigms (such as prune-and-search, dynamic programming, branch-and-bound, graph traversal, and randomized approaches), amortized analysis, NP-completeness, and some selected advanced topics.

Language(s) of Instruction
English

Host Institution Course Number
CS3230

Host Institution Course Title
DESIGN AND ANALYSIS OF ALGORITHMS

Host Institution Course Details
https://nusmods.com/courses/CS3230/design-and-analysis-of-algorithms

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Computer Science

Course Last Reviewed
2023-2024

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