COURSE DETAIL

COMPUTATIONAL COMPLEXITY
Country Singapore
Host Institution National University of Singapore
Program(s) National University of Singapore
UCEAP Course Level Graduate
UCEAP Subject Area(s) Computer Science
UCEAP Course Number 205
UCEAP Course Suffix
UCEAP Official Title COMPUTATIONAL COMPLEXITY
UCEAP Transcript Title COMPUTE COMPLEXITY
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description
The aim of this course is to study the various measures of difficulty of problem solving in computing, and to introduce some techniques in theoretical computer science such as non-determinism, digitalization, simulation, padding, reduction, randomization and interaction. Topics covered include: space and time complexity - the classes P, NP, co-NP, PSPACE, EXP, etc.; tape compression; linear speedup; polynomial reduction; Cook's theorem; Savitch's theorem; translation lemma; Gap theorem; NP-completeness and NP-hard problems; probabilistic complexity classes; approximation algorithms; and interactive protocols.

Language(s) of Instruction
English

Host Institution Course Number
CS5230

Host Institution Course Title
COMPUTATIONAL COMPLEXITY

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Computer Science

Course Last Reviewed

Print