COURSE DETAIL

NON-LINEAR PROGRAMMING
Country Singapore
Host Institution National University of Singapore
Program(s) National University of Singapore
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 115
UCEAP Course Suffix
UCEAP Official Title NON-LINEAR PROGRAMMING
UCEAP Transcript Title NON-LINEAR PROGRAMG
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course examines how optimization principles are of undisputed importance in modern design and system operation and illustrates how algorithms can be designed from mathematical theories for solving optimization problems. Topics include fundamentals, unconstrained optimization: one-dimensional search, Newton-Raphson method, gradient method, constrained optimization: Lagrangian multipliers method, Karush-Kuhn-Tucker optimality conditions, Lagrangian duality and saddle point optimality conditions, and convex programming: Frank-Wolfe method. The course requires students to take prerequisites.

Language(s) of Instruction
English

Host Institution Course Number
MA3236

Host Institution Course Title
NON-LINEAR PROGRAMMING

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics

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