COURSE DETAIL

INTRODUCTION TO NUMERICAL ANALYSIS
Country United Kingdom - England
Host Institution Imperial College London
Program(s) Imperial College London
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 150
UCEAP Course Suffix
UCEAP Official Title INTRODUCTION TO NUMERICAL ANALYSIS
UCEAP Transcript Title NUMERICAL ANALYSIS
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description
This applied analysis course leads to an introduction to some of the standard algorithms in numerical analysis. Students explore orthogonality, alongside inner/outer products on Rn; linear dependence/independence; orthogonal/orthonormal vectors; classical Gram-Schmidt; orthogonal matrices; Givens rotations, QR factorization, and Cauchy-Schwartz inequality. The course also covers gradients/Hessians, exploring Taylor series for f: Rn à? R; classification of stationary points; positive definite matrices; generalized inner products on Rn; and Cholesky factorization of symmetric positive definite matrices.

Language(s) of Instruction
English

Host Institution Course Number
M2AA3

Host Institution Course Title
INTRODUCTION TO NUMERICAL ANALYSIS

Host Institution Course Details
http://www.imperial.ac.uk/computing/current-students/courses/M2AA3/

Host Institution Campus
Imperial College London

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics

Course Last Reviewed
2019-2020

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