COURSE DETAIL

INTRODUCTION TO LINEAR ALGEBRA
Country Ireland
Host Institution University College Cork
Program(s) University College Cork
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 102
UCEAP Course Suffix
UCEAP Official Title INTRODUCTION TO LINEAR ALGEBRA
UCEAP Transcript Title INTRO LINEAR ALGBRA
UCEAP Quarter Units 4.00
UCEAP Semester Units 2.70

Course Description
Topics in this course include: vectors, dot products, conics and quadrics, matrices, determinants, and linear equations. Students solve systems of linear equations; prove theorems and identities using induction; discuss terms including determinant, eigenvalue, eigenvector, invertibility, kernel, image, and spectrum; find the eigenvectors and eigenvalues of a square matrix; find the determinant and inverse of a 3 x 3 matrix, and solve associated linear equations; deduce the solvability of a system of linear equations, without finding the solutions, via Gaussian elimination; deduce whether one vector is a linear combination of others, and by the same method deduce the dimension of the kernel and image of any matrix, using Gaussian elimination and examining pivots; and prove the equivalence of the dozen invertibility criteria of Strang's nutshell using the main theorems of linear algebra.

Language(s) of Instruction
English

Host Institution Course Number
MA1058

Host Institution Course Title
INTRODUCTION TO LINEAR ALGEBRA

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics

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