School of Mathematics

Course 111 — Linear Algebra (JF Mathematics, Theoretical Physics & Two-subject Moderatorship)

Lecturer: Dr. C. Ó Dúnlaing

Requirements/prerequisites: None

Duration: 24 weeks

Number of lectures per week: 2 and 1 tutorial

Assessment: Continuous assessment through twenty homeworks and three short examinations spread over the academic year.

End-of-year Examination: No annual examination. Those who fail through continuous assessment must take a supplemental examination (in September)

Description:

The integers Fields: rationals, reals, and complex Vector spaces Basis and dimension Sets and maps Linear maps Matrices and Gauss-Jordan elimination Change of basis Permutation groups Determinants Cross products Characteristic polynomial and minimum polynomial Jordan Normal Form **Bilinear Forms** Orthonormal bases; Gram-Schmidt orthogonalisation Spectral Theorem for Hermitian/symmetric matrices More information can be found at http://www.maths.tcd.ie/~odunlain/111.html

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