SYLLABUS FOR MA1111
Trinity College Dublin, Michaelmas 2016

Course Title: Linear Algebra I

Course Description: We will cover the following topics, yet not necessarily in the order listed.

- Lines, planes and vectors, dot and cross product.
- Linear systems, Gauss-Jordan elimination, reduced row echelon form.
- Matrix multiplication, elementary row operations, inverse matrix.
- Permutations, odd and even, determinants, transpose matrix.
- Minors, cofactors, adjoint matrix, inverse matrix, Cramer's rule.
- Vector spaces, linear independence and span, bases and dimension.
- Linear operators, matrix of a linear operator with respect to a basis.
- Change of basis, transition matrix, conjugate matrices.

Lectures:

- Tuesdays at 5 pm in LB01 (Lloyd Building)
- Thursdays at 9 am in CHLLT 0.11
- Fridays at 2 pm in the Joly lecture theatre (Hamilton Building) (starting the second week, every other Friday there will be a tutorial)

Instructor: Larry Rolen

Office: 2.10, 18 Westland Row

Email: lrolen@maths.tcd.ie

Text: We will not follow any particular textbook. Two typical references are Algebra by Michael Artin and Basic linear algebra by Blyth and Robertson.

Course Website: `http://www.maths.tcd.ie/~lrolen/LinearAlgebra.html`
Homework and tutorial questions and solutions, as well as course updates, will be posted here.

Homework Policy: Homework will be due on the beginning of class each Thursday

Marks: 20% homework, 80% final exam (based on homework and tutorials). Supplemental exams will consist of 100% exam.