School of Mathematics

Course 2E2 — Engineering Mathematics IV   2007-08
(SF Engineering & MSISS& MEMS)

Lecturer: Dr. D. Zaitsev

Requirements/prerequisites: 1E1, 1E2

Duration: 16 weeks

Number of lectures per week: 2 + 1 tutorial

Assessment: Tutorial sheets/assignments counting 15% and Final Exam 85%

End-of-year Examination: One 3 hour examination (Final Exam in May/June).

Description: See `http://www.maths.tcd.ie/~zaitsev/2E2-2008-09/2E2.html` for more information.

Objectives. The objectives of this course are to give the participants a basic grounding in the mathematics that underlies virtually all of the applications of the mathematics to engineering and to promote an ability among the participants to apply this knowledge to new situations.

Syllabus.

Linear Algebra. This continues the study of linear algebra begun in 1E2.
Textbook: *Elementary Linear Algebra* (with applications), Anton & Rorres, Chapters 4-7.

Fourier Series, Fourier Transform. This is new, heavily relying on the theories of linear algebra.
Textbook: *Advanced Engineering Mathematics*, Kreyszig, Chapter 10.

October 10, 2008