School of Mathematics

Course 2E1 — SF Engineering Pure Mathematics   2001-02
(SF Engineering & MSISS)

Lecturer: Professor T.T. West

Requirements/prerequisites: 1E1

Duration: 22 weeks excluding examining period.

Number of lectures per week: 3.5

Assessment:

End-of-year Examination: One 3 hour examination.

Description:

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
Multivariate Calculus. This extends the calculus of one variable studied in 1E1 to several variables.
Textbook: *Calculus*, Thomas & Finney, Chapters 12-13.

Linear Algebra. this continues the study of linear algebra begun in 1E2.
Textbook: *Elementary Linear Algebra* (with applications), Anton & Rorres, Chapters 4-11.

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

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