School of Mathematics

Course 1E1 – Engineering Mathematics 1
(JF Engineers & JF MSSI & JF MEMS)

Lecturer: Dr. Sergey Cherkis

Requirements/prerequisites: Purchase of the textbook ISBN 0471 728608

Duration: 24 weeks

Number of lectures per week: 3, including 1 tutorial

Assessment: Weekly homework and term exam.

End-of-year Examination: Yes (3 hour)

Description: See [http://www.maths.tcd.ie/~cherkis/1E1](http://www.maths.tcd.ie/~cherkis/1E1) for more complete information.
(First 8 chapters and chapter 10 of textbook)

- Limits and Continuity
- Derivatives
- Applications of Derivatives
- Integration
- Applications of Integration (Volumes by slicing, volumes of solids of revolution, volumes by cylindrical shells, lengths of plane curves, of parametric arcs, moments and centers of mass of thin rods)
- Transcendental Functions (Logarithms, exponential functions, inverse trigonometric functions, hyperbolic and inverse hyperbolic functions)
- Techniques of Integration
- Infinite Series

Textbooks:

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