

## School of Mathematics

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

2006-07

**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> 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:

Calculus: Late Transcendentals Single Variable, 8th Edition Howard Anton, Irl Bivens, Stephen Davis ISBN: 0-471-728608 John Wiley & Sons; 8 edition (March 25, 2005)

October 10, 2006