MATH262-10S2 DIFFERENTIAL EQUATIONS & EMTH202-10W TRANSFORMS

Course Syllabus – 2010

- Reduction of order.
- Variation of Parameters.
- Laplace Transforms
  - Definition, linearity and existence.
  - First Shift Theorem.
  - Transforms of derivatives.
  - Initial Value Problems.
  - Step functions, the Second Shift Theorem and the Dirac Delta Function.
  - Convolution, the transfer function and the impulse response.
  - Resonance
- Fourier Series
  - A vibrating string.
  - Even and odd functions.
  - Periodicity and Orthogonality of Sine and Cosine functions.
  - Convergence of Fourier series.
- Fourier Transforms
  - Introduction
  - Filtering