

## Week 8

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### Lecture 1

- Section 1.2: 1D Diffusion equation (Heat equation) with homogeneous Neumann BCs.
  - Section 1.3: 2D Laplace equation (conduction problem) in a semi-infinite plate with homogeneous Dirichlet BCs.
  - Demonstration of the use of Maple.
  - Demonstration of the use of Mathcad. Colin Campbell
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### Lecture 2

- Section 1.3: 2D Laplace equation (conduction problem) in a semi-infinite plate with homogeneous Dirichlet BCs.
  - Section 1.4: 1D Mass diffusion in a rod with homogeneous Neumann BCs.
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### Lecture 3

#### Makeup Lecture 3

- Section 1.4: 1D Mass diffusion in a rod with homogeneous Neumann BCs. Characteristic equation. Its roots. Orthogonality of sines. See Maple worksheets.
  - Section 1.3: 2D Laplace in a semi-infinite strip rotated through 90 degrees. Re-examination of the possible solutions. Selection of appropriate solution by means of the homogeneous BCs along  $y = 0$  and  $y = L$ .
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### Lecture 4

- Section 2.1: Vibrating String with fixed ends and initial velocity.
  - See illustrative example on page 589. Initial displacement is a plucked string.
  - Section 2.2: Vibrating String with damping and initial velocity.
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