Instructor: D.W. Schwendeman (schwed@rpi.edu, Amos Eaton 306)

Office Hours: Wednesdays 1:30–3:00pm, Fridays 9:30–11:00am, or by appointment.

Course website: Linked from my homepage: http://www.rpi.edu/~schwed


Outline:

1. Introduction, Heat Equation (Text sections 1.1 – 1.5)
2. Separation of Variables (Text sections 2.1 – 2.5)
3. Fourier Series (Text sections 3.1 – 3.6)
4. Wave Equation, Vibrating String and Membranes (Text sections 4.1 – 4.5)
5. Sturm-Liouville Eigenvalue Problems (Text sections 5.1 – 5.10)
6. Higher Dimensional PDEs (Text sections 7.1 – 7.9)
7. Nonhomogeneous Problems (Text sections 8.1 – 8.6)
8. First-Order PDEs, Method of Characteristics (Text sections 12.1 – 12.6)
9. Green’s Functions for Elliptic PDEs (Text chapter 9, time permitting)

Grading Policy:

- Course grades will be based on exams (two in-class exams and a final exam) and regularly assigned problem sets.
- The weights for these items are 70% for exams and 30% for problem sets.