Instructor: Michael Jenkinson (jenkim2@rpi.edu, 412 Amos Eaton)

Office Hours: Tuesdays and Fridays 10:00 AM - 11:30 AM, or by appointment.

Website: [homepages.rpi.edu/~jenkim2/classes/math_4500_spring_2017/math_4500.html](homepages.rpi.edu/~jenkim2/classes/math_4500_spring_2017/math_4500.html)


Topics and Course 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.

Late Homework Policy

Homework is to be handed in by the beginning of class on the date it is due. If you are unable to hand in your homework on time, then you must make arrangements with me in advance and not after the due date. For example, if you are sick and unable to hand in your work on time, you should let me know in advance that this is the situation. On the other hand, if you have work in other classes and are not able to hand in your work on time, then this is not a valid reason for an extension. Homework handed in up to one day late will be penalized 20%. Homework handed in between one and two days late will be penalized 50%. No homework will be accepted more than two days late (unless a prior arrangement has been made).

Appealing Grades

You may come to my office in order to appeal a grade on a homework or an exam with the restriction that it is within two weeks of receiving the graded assignment.
Academic Integrity

The relationship between a student and instructor is built on mutual respect and trust. Acts which violate this trust, undermine the educational process. The Rensselaer Handbook of Student Rights and Responsibilities defines various forms of Academic Dishonesty and you should make yourself familiar with these.

In the case of problem sets, collaboration between students is encouraged. However, each student must write his/her own solutions and submit his/her own problem sets. Simply copying someone else’s solution is not permitted.

In the case of exams, there is no collaboration of any kind permitted. If cheating is suspected, then an explanation will be requested. If the explanation is not satisfactory, then an exam grade of zero will be given and a report will be made to the Dean of Students.