

## MATH 4567, Section 002, Spring 2019, MWF 3:35-4:25, Vincent Hall 2

**Instructor:** Jiaping Wang; Office: Vincent Hall 230; web page: [www.math.umn.edu/~jiaping](http://www.math.umn.edu/~jiaping)

**Office hours:** MWF 2:30-3:20 (subject to change)

**Course title and a brief description:** Fourier Analysis

Fourier series and Fourier transform. Convergence. Fourier series, transform in complex form. Solution of wave, heat, Laplace equations by separation of variables. Sturm-Liouville systems. Applications.

**Prerequisites:** 2243 or 2373 or 2573

**Text and material:** Fourier Series and Boundary Value Problems, 8th edition, by Brown and Churchill, McGraw Hill Publisher. The course will cover Chapters 1-8, and selected material from Chapter 11.

**Course work:** The class time will be devoted to lectures where you should gain understanding of the basic concepts and methods, realize connections to other parts of mathematics you have learned (linear algebra), and eventually build a global picture of the theory of (generalized) Fourier series. You will broaden your knowledge and develop solving routines out of class: you are expected to carefully study the text and solve a number of exercises. Assigned homework is the minimum you can do for your practice.

**Assignments:** Homework assignments will be posted on my web page and collected in class on Wednesday. One homework (the worst grade or a homework missed for any reason) will be dropped at the end. No late homework will be accepted. You may discuss homework problems with other students, however, you are supposed to work out and write down the solutions yourself. Please write complete solutions clearly on one side of letter-size sheets. Questions or objections to grading must be brought up within a week after the graded work is returned to you.

**Exams and grading policy:** There will be three one-hour exams covering appropriate parts of the material. No books, notes or technology are allowed for the exams. Make-up exams are discouraged, but can only be given for legitimate reasons such as illness or university sponsored events (written documentation and, except for medical emergencies, prior approval are required).

**Grading scheme:** homework 25%, 3 midterm exams 75% (25% each).

**Exam dates:** Monday, February 25; Monday, April 1; Monday, May 6.

Incomplete will only be assigned at extraordinary circumstances (such as hospitalization), and only if a major part of the class work has been completed. Academic dishonesty in any portion of the course shall be grounds for assigning a grade of F or N for the entire course.