

# MATH 312 Syllabus (Spring 2024)

## CLASS INFO

MATH 312

Meeting Times: TR 2:00 PM - 3:15 PM

Room: SMLC-356

Text: *Applied Partial Differential Equations with Fourier Series and Boundary Value Problems, 5th Edition* by Richard Haberman . (Pearson).

Webpage: <https://math.unm.edu/~jehanzeb/math312sp24.html>

## INSTRUCTOR

Dr. Jehanzeb H. Chaudhry (Zeb)

Office: SMLC 310

Email: [jehanzeb@unm.edu](mailto:jehanzeb@unm.edu)

## OFFICE HOURS

- Tuesday: 4:30 pm - 6:00 pm
- Wednesday: 4:30 pm - 6:00 pm
- By appointment

**PREREQUISITES:** MATH 2531 and 316.

## COURSE DESCRIPTION

We study solution methods for partial differential equations and their science and engineering applications. In particular, we find analytical solutions to linear PDEs: heat equation, wave equation, and Laplace's equation. We study the following solution techniques: method of separation of variables, Fourier series, the method of characteristics, and the introduction of special functions such as Bessel and Legendre functions.

## GRADE

The course grade will be determined by:

- Homeworks: 25%
- Midterm I: 25%
- Midterm II: 25%
- Final: 25%.

After the weighted percentage grade has been calculated as detailed above, letter grades will be assigned according to the following scheme: A, 90 or above, B, 80 or above, C, 70 or above, D, 60 or above, F below 60. However, the instructor reserves the right to "curve" grades to offset unforeseen circumstances. The curving of grades will never decrease a student's letter grade below that given by the above formula.

## HOMEWORK

You can expect a weekly homework during the semester, for an approximate total of twelve homeworks (there may be no homeworks during midterm weeks). Each homework will consist of a number of problems. You need to hand in a legibly and neatly written report on the due date in class. Your solution will be graded on clarity and showing all steps. If I cannot understand your solution due to lack of clarity, organization, missing steps etc., you will lose points. Late homeworks are not accepted. However, I will drop your two lowest scores. You are encouraged to discuss homework problems with your classmates. However, the eventual writeup of the solutions should be your own: identical or nearly identical solutions will receive zero credit. Collaboration is encouraged; but copying is not permitted. Homework grading disputes must be submitted in writing within one week after the work is returned.

## EXAMS

There are three exams: two midterms and a final. Their dates are:

- Midterm I: February 27
- Midterm II: April 4
- Final: Check at <https://schedule.unm.edu/>

All exams will be conducted in class. Cheating on any exams will be treated with the full severity indicated by university policy, with no warnings or second chances. There are no makeup exams, however, I am sympathetic to a student who is unable to take a scheduled test due to a hardship if, and only if, that hardship

is unanticipated. Exam grading disputes must be submitted in writing within one week after the work is returned. The final exam will be cumulative.

### **MISCELLANEOUS**

In the scenario I miss class due to illness, travel, snow etc., I will either arrange for a substitute instructor, or upload the lecture on Canvas.

If you have COVID-like symptoms, please do not come to class, stay home, don't work, and concentrate on getting well. I do not require a doctors note for missing the lecture in this case; just send me an email. For more information on issues related to COVID at UNM please see <https://www.unm.edu/covid/>.

There may be occasions to earn bonus points in this class. E.g. there may be bonus problems on the exams, or we may have bonus in-class quizzes etc. These bonus points are on top of the 100% points for the exam or the course, so can only improve your grade.

### **ACCOMODATIONS**

UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact Accessibility Resource Center at [arcsrvs@unm.edu](mailto:arcsrvs@unm.edu) or by phone at 505-277-3506.

### **CREDIT-HOUR STATEMENT**

This is a three credit-hour course. Class meets for two 75-minute sessions of direct instruction for fifteen weeks during the Spring 2024 semester. Please plan for a minimum of six hours of out-of-class work (or homework, study, assignment completion, and class preparation) each week.

### **TITLE IX**

To meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees." This designation requires that any report of gender discrimination, which includes sexual harassment, sexual misconduct and sexual violence, made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office Compliance, Ethics and Equal Opportunity ([ceeo.unm.edu](http://ceeo.unm.edu)). For more information on the campus policy regarding sexual misconduct and reporting, see: <https://policy.unm.edu/university-policies/2000/2740.html>.

### **RESPONSIBLE LEARNING and ACADEMIC HONESTY**

We all have shared responsibility for ensuring that learning occurs safely, honestly, and equitably. Submitting material as your own work that has been generated on a website, in a publication, by an artificial intelligence algorithm (AI), by another person, or by breaking the rules of an assignment constitutes academic dishonesty. It is a student code of conduct violation that can lead to a disciplinary procedure. Please ask me for help in finding the resources you need to be successful in this course. I can help you use study resources responsibly and effectively. Off-campus paper writing services, problem-checkers and services, websites, and AIs can produce incorrect or misleading results. Learning the course material depends on completing and submitting your own work. UNM preserves and protects the integrity of the academic community through multiple policies including policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH CO9). These are in the Student Pathfinder (<https://pathfinder.unm.edu>) and the Faculty Handbook (<https://handbook.unm.edu>).

### **ATTENDANCE and LATE WORK POLICY**

Regular and punctual attendance is required. UNM Pathfinder policies apply, which in part means instructor drops based on non-attendance are possible. This policy applies regardless of the grading option you have chosen.

As mentioned above, late homeworks are not accepted, however, I will drop two of your lowest scores. This is to accommodate any unforeseen hardship that may arise. If you miss an exam due to an unforeseen hardship, please contact me for a resolution.