Course syllabus
PHYS 6350: "Mathematical Physics I"
Fall 2025

Instructor: Joseph Romano
Office: BINAB 2.122
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Email: joseph.romano@utrgv.edu
Office hours: TTh: 11:00am-12:30pm and by appointment (in-person or via zoom)

Lectures: Tues / Thurs: 9:30am – 10:45pm (BMAIN 1.508)

Course website: https://josephromano.github.io/PHYS6350/

Required textbook: None required, but see course website for suggested reading material, etc.

Course description: This graduate course will include linear algebra, ordinary and partial differential equations, special functions, eigenvalue problems, complex analysis, group theory. [NOTE: Given students background we will cover a subset of these topics or additional topics as appropriate.]

Prerequisites: Two semesters of undergraduate mathematical methods or permission of instructor.

Student learning outcomes: To be able to apply various mathematical techniques to solve problems in physics at the graduate level.

Class attendance: Students are expected to attend all scheduled classes. UTRGV's attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics, accommodation by Student Accessibility Services (SAS), observance of religious holy days, or military service. Accommodations related to long-term complications from medical conditions should go through SAS. Students should contact me before the excused absence and arrange to make up missed work or examinations.

See "course calendar" on the course website, which specifies exam dates and tentative list of topics.

Make-up policy: Make-up exams will not be given.

Exams: Four exams will be given throughout the semester. The final will be a cumulative oral exam.

Problem workbook: You should keep a notebook with all your worked problems. I will check this notebook four times during the semester, before exams. It will count 10 points toward your final grade.

Grading:
Exams: 4x20% = 80%
Problem workbook: 10%
Oral final: 10%