Syllabus for MATH 3413.001, Physical Mathematics I, Spring 2020
TR 9:00–10:15 a.m., 317 PHSC

Class web page: `http://www.math.ou.edu/~npetrov/math3413_s20.html`

Instructor: Prof. Nikola Petrov, `npetrov@ou.edu`, 1101 PHSC

Office Hours: Mon 2:30–3:30 p.m., Tue 10:30–11:30 a.m., or by appointment, in 1101 PHSC

Course catalog description: Prerequisite: MATH 2443 or MATH 2934 or concurrent enrollment. Complex numbers and functions. Fourier series, solution methods for ordinary differential equations and partial differential equations, Laplace transforms, series solutions, Legendre's equation.

Text: C. H. Edwards, D. E. Penney, D. T. Calvis, *Differential Equations and Boundary Value Problems*, 5th edition, Pearson, 2015. The course will most of chapters 1, 3, 7, 8, and 9 of the book.

Grading: Your grade will be based on the following:

Homework assignments (lowest grade dropped)	15 %
Three midterm exams	19 % each
Final exam	28 %

Course grades will be assigned by calculating the total for each student in the class, listing the totals in rank order, and assigning grades according to a reasonable total needed for each letter. After Exams 2 and 3, I will announce your tentative grade for the course.

Exam dates:

Exam 1	Thursday, February 13
Exam 2	Thursday, March 26
Exam 3	Thursday, April 23
Cumulative Final Exam	Friday, May 8, 8:00–10:00 a.m.

You must have your OU photo ID with you at all exams, and show it if requested. No books, notes, or electronic devices of any kind may be used during exams. Do not make travel plans that prevent you from taking any of the tests or the final exam at the scheduled time. If you have a legitimate reason for missing an exam that can be documented independently of your testimony (e.g., via a note or phone call from a doctor or a parent), you must contact me prior to the exam, in order to make an alternative arrangement. I am very fastidious about such matters, so don't expect such arrangements unless you have a compelling excuse that meets the above conditions (especially the "prior notice" part).

Attendance: You are expected to attend all lectures, and you are responsible for all information given out during them. You are expected to arrive on time for the lectures, properly prepared and in good physical condition, so that you can maintain full concentration for the entire lecture.

All electronic equipment should be turned off before the start of every lecture, and should remain off until the class is dismissed. Activities such as *conversing with other students, eating, sleeping, reading a newspaper, listening to headsets, using computers, cell phones, or other electronic devices, are not allowed!*

Homework: The homework assignments will be given regularly throughout the semester on the class web site. Each homework will consist of several problems, most of which will be graded. Your homework solutions must be submitted to me at the beginning of class on the due date. Giving just an answer to a problem is not worthy any credit – you have to write a complete solution which gives your step-by-step reasoning and is written in grammatically correct English. The grader has the right to refuse to grade a homework paper that is illegible or excessively sloppy. *Your lowest homework grade will be dropped.*

The problems in your homework should be in the order listed in the assignment, and the sheets should be stapled. No late homework will be accepted!

You are encouraged to discuss the homework problems with other students, but you should write up the solutions in your own words. Copying solutions from a solutions manual, from someone else's work, or from the Internet is a complete waste of time, as you will not learn the material adequately, and you will pay a heavy price on the exams which constitute 85 % of your course grade.

Practice problems. After each lecture several Practice problems will be assigned. These problems will not be collected for grading, but nevertheless you have to attempt to solve each one of them, and to read the solutions of these problems, which will be posted on Canvas. The understanding of the solutions of the Practice problems is essential for your full understanding of the course material.

Academic Misconduct: All cases of suspected academic misconduct will be reported to the Office of Academic Integrity Programs as possible violations of University's Academic Integrity Code. If the violation is confirmed by the Academic Integrity Program's Office, the penalties can be quite severe, so the best advice is **Don't do it!** For more details on the University's policies concerning academic misconduct consult the link

> http://www.ou.edu/integrity

This link also has information about admonitions (essentially warnings about potential misconduct for fairly minor infractions) and your rights to appeal charges of academic misconduct.

Students are also bound by the provisions of the *OU Student Code*, available at

> https://www.ou.edu/content/dam/studentlife/documents/AllCampusStudentCode.pdf

Students with disabilities: The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the instructor as early in the semester as possible. Prior to receiving accommodations in this course, students with disabilities must be registered with the Disability Resource Center, 730 College Avenue, phone 405–325–3852.

Religious holidays: It is the policy of the University to excuse the absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays. Please let me know as soon as possible if you are going to miss a class due to this reason.

Caminante, son tus huellas	Traveler, your footsteps
el camino y nada más;	are the road and nothing more;
caminante, no hay camino,	traveler, there is no road,
se hace camino al andar.	the road is made by walking.
Al andar se hace camino,	By walking the road is made
y al volver la vista atrás	and when we turn to look back
se ve la senda que nunca	we see the path that
se ha de volver a pisar.	will never be traveled again.
Caminante, no hay camino,	Traveler, there is no road,
sino estellas sobre la mar.	only tracks of foam on the sea.

From *Proverbios y Cantares*, Antonio Machado (1875–1939)