

PHYS 325 Mathematical Methods of Physics I

Summer 2026

Lecture: MMTTWWThThFF 1212121212

Class materials will be emailed

This is an online course with face to face in class exams and occasional in class lectures.

As such it will be necessary for each student to obey strict rules.

For lectures, connect to ZOOM

<https://boun-edu-tr.zoom.us/j/94598678480?pwd=Z3T2eaGwubKC7VsUIMkUYKJJzdzJpV.1#success>

Passcode: metinhoca

Keeping your camera and listening device on is compulsory and attendance will be strictly monitored. Questions by the instructor may be directed to a particular student and an answer is required for keeping your attendance grade. The composition of the final grade will be: attendance 20%, midterm exam 30%, final exam 50%.

Please join PHYS 325 WHATSAPP GROUP, make sure you are identified by name in your credentials on your phone

https://chat.whatsapp.com/Ltvi5dByLnZ0dWzQhPoIQV?mode=gi_t

Metin Arik's Cell Phone is 05324128499, you are welcome to send whatsapp messages but group messaging is more effective.

The following topics and Chapters from Lorella Jones's book will be covered:

- Linear vector spaces: vectors and matrices, the eigenvalue program. Chs 1, 2.1
- Abstract formulation of vector spaces: function spaces, expansions in orthogonal bases, Fourier series, Fourier transform, Dirac bra-ket notation. Dirac delta function. Chs 2.1, 4.3-4.5
- Ordinary differential equations: solutions in closed form, power series solutions, special functions. Ch 3.1,3.2,3.5
- Infinite series. Ch 5
- Evaluation of integrals. Ch 6
- Functions of a complex variable: calculus of residues, contour integration, contour integral representations of special functions. Ch 7, 8.1

https://drive.google.com/file/d/1ySn-x09NscHn2mscnTOMKFH0kqkzEwZ/view?usp=drive_link