

**University of Maryland  
Department of Physics**

Physics 611

Spring 2022

**GENERAL INFORMATION**

Title: Mathematical Methods and Their Applications in Classical Mechanics and Electrodynamics II

Instructor: Dr. James F. Drake

Office: A. V. Williams Bldg. (3311)  
Phone: 405-1471  
e-mail: drake@umd.edu  
Office Hours: by appointment or random access.  
Web site: [www.terpconnect.umd.edu/~drake/classes/physics611](http://www.terpconnect.umd.edu/~drake/classes/physics611)

Room: Toll 1201

Time: TuTh 11:00-12:50

Grader: Xiaozhen Fu  
email: xz1@umd.edu

Pod TA: Brandon Johnson  
email: branjohn@umd.edu

Course Description: Topics to be covered include electrostatics (topics not covered in Physics 610) and magnetostatics, multipole expansions, electromagnetic wave propagation, radiation, special relativity, and the Lorentz group with applications to Maxwell's equations and classical rotations.

Text: J. D. Jackson, *Classical Electrodynamics*, 3rd Edition (1999), Academic Press.

Supplementary

Reading: Landau and Lifshitz, *Electrodynamics of Continuous Media*, Addison and Wesley.

Homework: Assignments will be made on each Thursday and will be due the following Thursday. Late homework will be penalized 20% for each day late and will not be accepted beyond Friday after it is due. The two lowest homework scores will be dropped.

Grading: There will be three exams: two midterms and a final. Grades will be assigned as follows:

Homework	100 points
1st midterm	100 points
2nd midterm	100 points
Final	200 points

The lowest score from the homework, either of the two midterms or half of the final will be dropped.