

**University of Maryland
Department of Physics**

Physics 272 and 272H

Fall 2013

GENERAL INFORMATION

Title: Introductory Physics: Fields

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.

Rooms and Time: TuTh 12:30-1:45 – Rm 1201 Physics
F 12:00-12:50 – Rm 1201 Physics
Questions in class are strongly encouraged.
One class hour per week will be devoted
to working problems and further discussion.

Grader: Yuan Tay

Office: Energy Research Rm. 0130

email: yantay@terpmail.umd.edu

Text: D. Giancoli, *Physics for Scientists and Engineers*,
4th Edition, Vol. 2, Pearson

Web site: All of the course materials, including the syllabus,
homework assignments and solutions, and exams and solutions
will be put on a web site for this class. The URL is:
<http://www.terpconnect.umd.edu/~drake/classes/physics272>

Course

Description: The course is intended to provide an introduction to electromagnetic fields. Topics are in Chapters 21-30 of the textbook but all of the material in these chapters will not be covered. Topics to be covered include Coulomb's law, the electric field, Gauss' law, the electric potential, capacitors and dielectrics, current and resistance, DC circuits, the magnetic field, Ampere's and Faraday's laws, inductance, AC circuits and the integral formulation of Maxwell's equations. The emphasis in the class will be on understanding important physics concepts.

Homework: Assignments will be made on each Thursday and will be due the following Thursday. All homework problems, including due dates, will be posted on **Mastering Physics** and the course web site. Homework will consist of two parts: a portion that is to be completed on-line using **Mastering Physics** and a written portion, consisting of one or more problems that are due in class. The Mastering Physics code for the course is MPDRAKE56547. Homework will be due at the beginning of class on Thursday. There will be approximately 13 homework assignments. Because we may have in-class discussion of the homework on Friday after the written assignment is due, no late homework will be accepted. The lowest three homework scores will be discarded so missing an assignment will not hurt your grade.

Exams: There will be three midterm exams and a final exam. Before each exam I will post a sample example from a prior time when I taught this course. Prior to each exam we will also hold a review session on the material to be covered in the exam (time to be determined). My students typically find these review sessions very valuable so make every effort to attend. Don't worry about memorizing formulae. I will put together a sheet with relevant formulae for each exam.

Grading: Your course grade will be computed on the basis of 600 points awarded as follows:

Homework (best 10)	100
1st midterm	100
2nd midterm	100
3rd midterm	100
Final Exam	200

To ensure that one bad day will not control your grade I will eliminate your lowest score above (either the homework, a midterm score or half of the final).

General

Comments:

Physics is a cumulative subject; the knowledge learned at each stage builds upon previous knowledge. Do not fall behind! If you find yourself in trouble, seek help. Attend the discussion sections and ask questions. Come to see me in my office (send an e-mail to make sure that I am available). Don't wait until just before the exam! Another help resource is the Peer tutoring Program. They offer free tutoring service by volunteer physics majors in Physics Rm 1304 5pm-7pm M-F.