

## PHYS 2140 Summer Semester 2012

CLASS HOMEPAGE: <http://astro1.panet.utoledo.edu/~vkarpov/Physics-2140.htm>

TEXT: *Fundamentals of Physics*, Halliday, Resnick, Walker (9th ed.).

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Hours: MTWR 9:40-10:40 or by appointment

### PREREQUISITES:

Official prerequisite: Physics 2130 (Mechanics, Heat, Sound)

Recommended prerequisite: Math 1860 (Calculus II)

CLASS TIMES: Class meets MTWRF from 8:00 to 9:40 AM for lectures and exams.

SUBJECT MATTER: The full sequence PHYS2130-2140 provides an introduction to the fundamental concepts of physics. The material for PHYS2140 is contained in Volume 2 of the text, which is one of the most widely used physics textbooks in the world. The division of topics in the text is roughly (a) electromagnetic fields, (b) optics, and (c) relativity. (Quantum mechanics will be discussed if time permits.) Of these textbook sections (a) is the largest, because so much of modern science and engineering (from computer chips to lasers and solar cells) is based on the use of electromagnetic fields and waves. *The principal goal of this course will be to achieve an understanding of these concepts and their applications.* The goal is to learn the general principles of physics and how to apply them in a variety of situations, **not** a list of standard procedures for solving a certain set of problems, because that list will be out of date tomorrow. If you master the general principles and the methods of applying them, you can in the future go beyond textbook examples to solve whatever problems you encounter.

GRADING: The course grade will be made up of the following components,

6 exams	16% each
Laboratory	10% (But you must pass the lab to pass the course.)

Grades are based on absolute standards, not on a "curve": there are no predetermined percentages of A's or of F's. Our goal is that everyone earns an A! Note that the current University Catalog defines C as the lowest "acceptable" grade, even though grades from D- through C- are passing. The target grading scale for PHYS2140 for Summer2011 will be as follows: 90-100A, 85-89A-, 80-84B+, 75-79 B, 70-74B-, 65-69C+, 60-64 C, 55-59C-, 50-54D, 0-49F.