Fall 9-1-2000

PHYS 341.01: Fundamentals of Modern Physics

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FUNDAMENTALS OF MODERN PHYSICS

LECTURES: MWF 1:10-2:00, Science Complex 231

INSTRUCTOR: Dr. Carla Riedel
Office: SC 122 / 243-5179 / riedel@selway.umt.edu
Office hours: M 11:10, T 3:10, W 2:10, R 9:10, F 10:10,
and by appointment

DESCRIPTION: Includes historical background for development of modern physics,
and an introduction to special relativity, quantum mechanics,
atomic physics, and subatomic physics.

PREREQUISITES: One year of general physics (preferably Phys 221/222);
One year of differential and integral calculus (Math 152/153).

TEXT: A Traveler's Guide to Spacetime, Moore (McGraw-Hill 1995) and

ONLINE: Class website: http://www.physics.umt.edu/phys341

HOMEWORK: Plan to spend at least 6 hours on homework each week.
Homework will be assigned one to three times a week.
Working with others on homework is encouraged, but
the work you turn in must be your own.
Due at beginning of class on due date.
20% per day late-homework fee.

EXAMS: Closed book.
Simple calculator (without symbolic manipulation) required.
Three in-class midterms (one 3"x5" note card allowed).
One two-hour, comprehensive final (one 8.5"x11" sheet allowed).
Help sessions will be scheduled prior to each exam.
Make-up exams allowed only in extreme situations, and
only when arranged in advance.

GRADING:
Midterms 40%
Homework 35%
Final Exam 25%
All grading will be based on correctness, completeness, and clarity.

Students with disabilities requiring accommodations, please, see the instructor.
### Tentative Schedule

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<th>Chapter</th>
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<td>M1</td>
<td>Introduction The Principle of Relativity</td>
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<td>9/11 - 9/15</td>
<td>M2, M3</td>
<td>Synchronization, Spacetime, Nature of Time, Metric Equation</td>
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<td>1:10–3:10</td>
<td>FINAL</td>
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M = Moore; K = Krane

Subject coverage may vary, but exam dates are firm.

Reminder: September 25 is No Penalty Drop Deadline.