

Course Syllabus
Physics 206 Modern Physics

Fall 2006

General Information

Instructor: Dr. R. Knispel Office: Halsey Science 348 Phone: 920-424-4431

Office Hours: Monday, Tuesday: 11:30 to 12:30
Wednesday: 10:20 to 11:20
Thursday, Friday: 9:10 to 10:10

Course Meeting Times:

Lecture 1:50 to 2:50 p.m. M W F HS 456

Text: **Modern Physics** 4th Ed. by Paul A. Tipler and Ralph A. Llewellyn,
W. H. Freeman, 2003

Course Outline:

- Unit 1. Relativity—Chapters 1 & 2
- Unit 2 Quantization of Charge, Light, and Energy—Chapter 3
The Nuclear Atom—Chapter 4
Wavelike Properties of Particles—Chapter 5
- Unit 3 Schrödinger Equation—Chapter 6
Atomic Physics—Chapter 7
- Unit 4 Topics from Statistical Physics—Chapter 8
Topics from Nuclear Physics, Nuclear Force—Chapter 11
Topics from Particle Physics—Chapter 13
- Student Project Unit Nuclear Reactor Discussions —Chapter 11 and related material

Testing: There will be a test on each of the four units, most likely in-class, although one may be take-home. There will be reports by students on the Reactor project unit. Depending on time, other topics may be added as indicated by student interest.

The course grade will consist of the following:

The four tests will count 70% of the class grade, distributed as follows:

17.5% for each test

Nuclear Physics Project 10%

Homework 20%

The concepts covered in this course are new and different from the concepts and physical laws covered in General Physics: Mechanics, Thermodynamics, Sound and Waves, Electricity and Magnetism, and Optics. These new physical laws with new conceptual bases are necessary at small distances and high speeds, but these laws reduce to familiar physical laws as we apply them to the larger distances and slower speeds with which we are familiar in everyday life.

Grading Scale:

In-class tests	Take-home Tests	Homework
86-100 A	90-100 A	80-100 A
77-85 AB	84-89 AB	70-79 AB
68-76 B	73-83 B	60-69 B
62-67 BC	67-72 BC	52-59 BC
53-61 C	56-66 C	42-51 C
47-52 CD	50-55 CD	34-41 CD
40-47 D	40-49 D	25-33 D
< 40 F	< 40 F	< 25 F