PHYSICS 3300: Introduction to Modern Physics
Course syllabus: Fall 2012

Instructor: Prof. Ed Cackett
Office: Rm 337, Physics
Phone: 577-9355
E-mail: ecackett@wayne.edu

Meeting times
MW, 5:30 - 6:55pm. Rm 185 Physics (note: lab class will run on W from 7:05 - 9:00pm)

Office Hours
M 2 - 3pm. If you can't make it during regular office hours, please feel free to email me to schedule an appointment at some other day/time.

Text
The course text is "Modern Physics" 2nd ed. by Serway, Moses and Moyer (Saunders). This is an old edition, which has been selected primarily because it is available for about $10 from internet sellers. But, there are *many* good textbooks called "Modern Physics" covering essentially the same material, feel free to use a different one for studying - I will not set problems directly from the book, so having this specific text is not a requirement. I do, however, highly recommend you get a textbook. There is not enough time in lectures to cover all the material thoroughly. You will gain a much better understanding of the topics by reading the material outside of class. Ideally you will read the relevant chapter before coming to class.

Exams
There will be four exams, each covering about a quarter of the course material. The second and third exams will have a review question based on the previous exam. The final (fourth) exam will mainly focus on the final quarter of the course but will also have at least one review question from each the previous sections. Exams are closed book, but a single summary sheet is allowed.

Homework assignments
Problems from the text will be assigned each week, and collected one week later. No late homework will be accepted. Your homework will be marked on a scale with two points being given for each complete and correct answer, and one point for each reasonable attempt. No credit will be given for minimal efforts (including for math-based questions writing the answer without showing your working) or for work that is obviously copied from another student.

Grading
The course grade has the following components:

80% - Exams, after dropping the lowest 25% of individual problems scores
20% - Problem Sets, after dropping the lowest set score.

The course grade will be assigned according to the total number of percentage points as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
90-100	85-89	80-84	75-79	70-74	65-69	60-64	55-59	50-54	45-49	40-44	0-39

Policy on Missed Work

There are no make-up exams or problems sets. The grading scheme, dropping the lowest 25% of exam problems, and allowing for a missed problem set, will accommodate routine illness and personal contingencies.

Generally, if a student is registered for the course a regular grade will be given. A grade of incomplete (I) will be given only in exceptional cases (to accommodate illness or emergency) after consultation with Prof. Cackett before the end of term.

In-class policies

Out of consideration for the other students in the lecture please abide by the following rules of conduct: (1) Turn off all cell phones while in lecture, (2) Please arrive on time for lecture and do not leave early, (3) Please be mindful of your classmates.

Academic dishonesty

All of the graded assignments are designed to measure your individual understanding of the material. No forms of cheating on these graded assignments will be tolerated (working together on the homework assignments is not considered cheating but copying of someone else's homework is). Anyone found cheating on any graded activity will receive a grade of zero for that part of their grade, and may receive a failing grade for the course.

Student Disability Services

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TTY: telecommunication device for the deaf; phone for hearing impaired students only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University.

Class Schedule - to be adjusted as needed throughout semester

Date	Chapter/item	PHY 3310 Lab (Wednesday only)
W 08/29	Begin Chp 1: Relativity	NO LAB
M 09/03	NO CLASS (Labor Day)	
W 09/05		Computer lab 1
M 09/10	Begin chp 2: Quantum Theory of Light	
W 09/12		NO LAB
M 09/17	Begin Chp 3: Particle nature of matter	
W 09/19		Thermal Radiation
M 09/24	Exam 1	
W 09/26	Begin Chp 4: Matter waves	Computer lab 2
M 10/01		
W 10/03	Begin Chp 5/6: 1-D Quantum Mechanics	Photo-electric effect
M 10/08		
W 10/10	Begin Chp 7: 3-D Quantum Mechanics	Electron diffraction (Davisson-Germer expt.)
M 10/15		
W 10/17	Exam 2	NO LAB
M 10/22	Begin Chp 8: Atomic Structure	
W 10/24		NO LAB
M 10/29	Begin Chp 9: Statistical Physics	
W 10/31		Electron q/m (Thomson expt.)
M 11/05	Begin Chp 11: Solid state physics	
W 11/07		Franck-Hertz expt
M 11/12	Exam 3	
W 11/14	Begin Chp 13/14: Nuclear Physics	NO LAB
M 11/19		
W 11/21	NO CLASS (Thanksgiving)	NO LAB
M 11/26	Begin Chp 15: Particles	
W 11/28		Balmer spectrum
M 12/03	Begin Chp 16: Cosmology	
W 12/05		Radioactivity
M 12/10	Course review	
Final Exam	Exam 4	