

Modern Physics

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Texts: *TZDII: Modern Physics for Scientists and Engineers*, 2nd Edition, John R. Taylor, Chris D. Zafiratos, & Michael A. Dubson (Prentice Hall, 2002).

CRC: Pocket Book of Integrals and Mathematical Formulas, 5th Edition, Ronald J. Tallarida (CRC Press, 2015).

Course overview: In this second semester of Modern Physics we will focus on the 3-D Schrödinger equation, EM radiation by particles, statistical mechanics, and nuclear physics.

Homework: Homework will be assigned daily and due two classes later. Homework solutions are essays about the universe and expected to explain the solution, not just calculations. Please do not wait until the last minute to do the homework. You may need some extra help from faculty or your peers. If you use resources other than the text book (on line, in person, or in print), you must cite them. You will not turn in the homework twice ... solve the problems the first time!

Exams: Three exams with both in-class and take-home portions covering the material completed before the exam. Questions will include both math and physics problems similar to the homework. The final exam will be cumulative. You must do the math (algebra and derivatives) by hand, but you may use a table (TZDII or CRC Pocket Book of Integrals and Mathematical Formulas) for integration. You must cite any resource you use.

Laboratory: The laboratory is required. Failure to pass the lab will result in failure in the course.

Class Presentations: You will be required to do one presentation on scientific articles vaguely related to the material. The presentations will be during the first 10 minutes of class on Fridays.

Class Participation: While participation in class is not a formal assignment, you are expected to attend and your contribution to the class will be considered in determining your final grade.

Grading: The grades will be a simple average of the homework, 3 exams, final (worth twice a regular exam), and the laboratory and $\frac{1}{4}$ of a grade point reserved for the discretion of the instructor based on participation and improvement.

THE FAR SIDE / GARY LARSON



"Hey! what's this, Higgins? Physics equations?...Do you enjoy your job here as a cartoonist, Higgins?"