

Modern Physics

Dr. Aileen O'Donoghue

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Texts: *Townsend: Quantum Physics: A Fundamental Approach to Modern Physics*, John S. Townsend (University Science Books, 2010).

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 and do not hand in first drafts. 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.

Exams: Two 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 (CRC Pocket Book of Integrals and Mathematical Formulas) for integration. You must cite any resource you use.

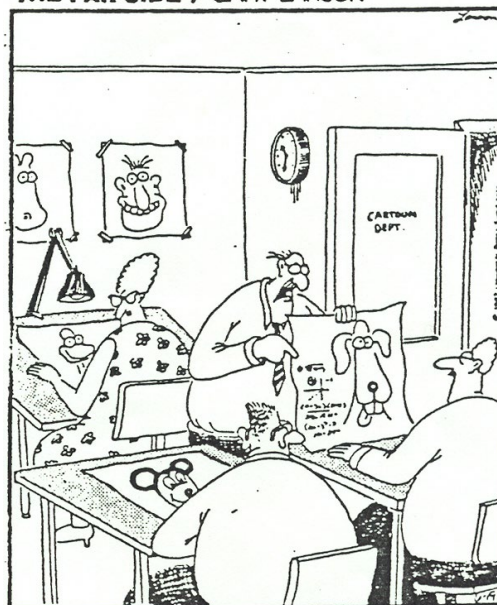
Laboratory: The laboratory is required. Failure to pass the lab will result in failure in the course.

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, 2 exams, final (worth twice a regular exam), and the laboratory. One quarter of a grade point is 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?"

WEBSITE: myslu.stlawu.edu/~aodo/SLU/physics/222/index.htm

Class Documents (syllabus, calendar, texts, information about Aileen)

Assignment lists, copies, due dates, and solutions

Here we go,
Saints!

COVID-19 FOR SPRING 2022

Masks must be worn properly at all times in the classroom and labs!

Wearing masks in classrooms is especially important because your professors and fellow students may have individual or family health risks that can be reduced this way. Dean Schonberg asks "that all students **wear a KN95 or equivalent mask in all classes**. This will help to keep your fellow students and professors healthy and is a sign of respect and consideration for everyone in your classes."

Class is in person! You may attend via Zoom ONLY if you are officially quarantined by the university. Or have a very serious injury or illness. For colds & flu, contact me, stay home, get copies of notes.

STUDENT ACCESSIBILITY SERVICES: <mailto:studentaccessibility@stlawu.edu>

If you have a learning difference/disability or other health impairment and need accommodations please be sure to contact the **Student Accessibility Services Office** right away so they can help you get the accommodations you require. If you need to use any accommodations in this class, please meet with your instructor early and provide them with your Individualized Educational Accommodation Plan (IEAP) letter so you can have the best possible experience this semester.

Although not required, your instructor would like to know of any accommodations that are needed at least 10 days before a quiz or test. Please be proactive and set up an appointment to meet with someone from the Student Accessibility Services Office.

Color-Vision Deficiency:

If you are Color-Vision Deficient, the Student Accessibility Services office has on loan glasses for students who are color vision deficient. Please contact the office to make an appointment. (The Physics Department also has a pair of glasses to loan.)

For more specific information about setting up an appointment with Student Accessibility Services please see the listed options below:

Telephone: (315) 229-5537

Email: studentaccessibility@stlawu.edu

Website: <https://www.stlawu.edu/student-accessibility-services>

The Peterson Quantitative Resource Center (PQRC): <mailto:pqrc@stlawu.edu>

Located in Valentine Hall, it offers free, no appointment necessary peer tutoring across a range of courses with quantitative content. The PQRC student staff of mentors is trained to assist students to develop and to improve their quantitative skills and understanding. More information about the PQRC's current hours and modes of operation can be found at the PQRC webpage.