

INTRODUCTION TO MODERN PHYSICS (PHYS 300), Spring 2018

Class meetings: Natural Sciences Building, room 112
Monday, Wednesday, and Friday: 10:00 - 10:50 a.m.

Instructor: Dr. Sergio B. Mendes
Dept. of Physics and Astronomy

Contact info: sbmend01@louisville.edu, (502) 852-0908

Office hours: M-W-F: 11:15 a.m. - 12:15 p.m. at room 240 of the Belknap Research Building (BRB). If you need an extra-appointment, please email or call in advance for confirmation.

Goals: Introduction to special relativity and quantum theory of matter with applications to atomic, molecular, nuclear, and solid state physics.

Textbook: Modern Physics for Scientists and Engineers, Stephen T. Thornton and Andrew Rex, 4th edition.

Lectures: Lectures will discuss the major and more crucial points described in the textbook. Students are highly recommended to read the material before class to facilitate comprehension.

Instructor's Website:

<http://www.physics.louisville.edu/sbmendes/teaching.htm>

Access to the WWW is essential for this course. By accessing the instructor's website (address above) you will find links to this course syllabus, class slides and notes, homework assignments and solutions, midterm tests and solutions, class announcements, and other related information.

Please note that the website for this course is not on Blackboard. Only this Syllabus is being posted on Blackboard.

Educational web site: <http://phet.colorado.edu/simulations/index.php>, from University of Colorado at Boulder. Many simulations including blackbody radiation, photoelectric effect, Rutherford scattering, Davisson-Germer experiment, Stern-Gerlach experiment, etc.

Evaluation:

- 3 mid-term tests = $3 \times 20\% = 60\%$
- 1 final comprehensive exam = 30%
- Average of homework assignments = 10%

Homework Assignments:

Homework Assignments will be posted on the instructor's website (see address above) approximately on a weekly basis. No print-outs (hardcopies) of the homework assignments will be distributed. The instructor will attempt to announce in class every time a new homework assignment has been posted on the instructor's website.

Your solutions to the assigned homework problems will be collected in class at the due date stated in the assignment. Typically, you will be given approximately one week to work on each homework assignment.

A small and random set of the assigned problems (for instance, 4 - 6 out of 10) will be graded from each assignment and tabulated towards the average of your homework assignments.

Test Dates:

- Mid-Term Tests: Sept 21, Oct 26, and Dec 03
- Final Comprehensive Exam: Dec 05, 8:00-10:30 am

Grading:

- A = 100% - 85%
- B = 84% - 75%
- C = 74% - 65%
- D = 64% - 55%
- F = below 54%

The instructor reserves the right to lower the grade limit.

Title IX/Clery Act Notification:

Sexual misconduct (sexual harassment, sexual assault, and sexual/dating/domestic violence) and sex discrimination are violations of University policies. Anyone experiencing sexual misconduct and/or sex discrimination has the right to obtain confidential support from the PEACC Program 852-2663, Counseling Center 852-6585 and Campus Health Services 852-6479.

Reporting your experience or incident to any other University employee (including, but not limited to, professors and instructors) is an official, non-confidential report to the University. To file an official report, please contact the Dean of Student's Office 852-5787 and/or the University of Louisville Police Department 852-6111. For more information regarding your rights as a victim of sexual misconduct, see the *Sexual Misconduct Resource Guide*: <http://louisville.edu/hr/employeerelations/sexual-misconduct-brochure>