

General Syllabus for Physics 150, 151, 152 (Sections 101-108)

Physics 150, 151 and 152 constitute a sequence of introductory general physics courses. All three involve laboratory. They are offered in the autumn, winter and spring quarters and again in a concentrated ten-week summer session. **Mathematics 131**, Trigonometry and Precalculus, is a prerequisite. Students should have a basic scientific calculator and be able to use it effectively. Other mathematical tools will be developed as the course progresses. The instructors' office hours are posted and a physics tutor schedule is listed soon after the beginning of each quarter.

The topical content of the course sequence is:

150: Mechanics and fluids

151: Heat, thermodynamics, waves, sound and light

152: Electricity, magnetism and modern physics

Upon completion of this course sequence students should be able to complete successfully the physics portion of the Medical College Admissions Test (MCAT) or its equivalent.

Methodology:

1) *Lecture and lecture-demonstration.* This is not a substitute for studying the text. In general, class preparation should include reading the appropriate sections of the text to be covered, as indicated on the Course Calendar distributed at the beginning of the quarter. The text and lab manual are the principal printed references for the course. Physics material must be read with care and probably more than once.

2) *Problem work.* Sample problems will be worked as part of lecture periods. The successful solution of suggested and assigned problems is a good indication of readiness for quizzes and tests. Students should become familiar with all the available resources for developing good problem solving skills. Many students find it helpful to form study groups. Aids to learning physics are available on the Course Web Page. Students can also contact the instructor for help by e-mail. It is strongly suggested that students keep all problem solutions neatly in a notebook.

3) *Homework.* Homework problems are of two types.

WebAssign. The WebAssign Manual and in-class instructions describe the procedure for submitting Web based homework. Due dates and time limits will be announced in class and posted on the course web page. Students are encouraged to make reasonable use of the "Ask Your Teacher" feature of WebAssign

Homework to be turned in. In addition to WebAssign problems, other assignments will be made to be turned in for grading and evaluation of students' problem solving skills. Due dates will be announced in class and posted on the course web page.

4) *iClicker.* The iClicker personal response system will be used in lecture sections. Instructions for the use of this system will be given in class and a summary will be available on the course web page. Students are expected to bring their iClickers to each class. The participation grade is based on in class responses to iClicker questions.

4) *Laboratory.* Laboratory work is an essential component of the course. The Course Calendar indicates the laboratory exercises scheduled for each week. In general, lab preparation will be incorporated into the class preceding the lab. This will cover the essential elements of the experiment: purpose, apparatus to be used, and procedures to be followed. Data should be recorded in ink at the time that the measurements are made. Ordinarily, the completion of a pre-lab Quiz (on WebAssign) will be required. Lab sheets must be initialed by a lab assistant or instructor before the student leaves the lab. Some "inquiry" or "discovery" questions are to be answered *before* a procedure is carried out. Some questions involving interpretation of results will reflect your incomplete knowledge of the subject matter, there is no penalty for "wrong" answers to questions of this type. Other questions assume that you have a better grasp of the material and should reflect some study of the text, more thorough analysis of data, graphs, and calculated results. In any case, your answers to the questions should reflect the fact that you honor literacy.

Completed lab reports are due at the beginning of your next scheduled lab period. Late reports are subject to penalty. It is expected that students will perform all the scheduled experiments. The lowest lab grade will be dropped; this does not include labs not performed or turned in.

PLAGIARISM

Copying lab reports is regarded as plagiarism and may result in a grade of "F" for the course. The definition of plagiarism includes "submitting as one's own work a report, examination paper, computer file, lab report or other assignment that has been prepared by someone else."

See the University Policy on Academic Integrity at <http://academicintegrity.depaul.edu/AcademicIntegrityPolicy.pdf>

LABORATORY SAFETY

All students who are registered for a laboratory course must take the Lab Safety Training offered by the Office of Risk Management and Environmental Health & Safety. This is available on-line. The training must be completed *within the first three weeks of the course*. The training is interactive so that there is more than one opportunity to complete the test. Instructors have access to the scores and will monitor completion of this requirement. The link for on-line training is: <https://www.itd.depaul.edu/auth/login.asp?prevURL=/InstructionBuilder/>.

For instructions on using Instruction Builder, the link is :

http://www.lib.depaul.edu/docs/IB_student_guide.pdf.

5) *Quizzes and Tests*. Dates and general content for quizzes and tests are given in the Course Calendar. For valid reasons, makeup quizzes can be arranged. The lowest quiz grade for the quarter will be dropped.

Class Attendance

Students are expected to attend all class, quiz and problem sessions.

Grading:

The grade scale for this course follows the 11 point grading system in effect at De Paul. (Consult the Undergraduate Bulletin for a description of this system.) Grades are based on performance in each of four categories and each category contributes to a maximum percentage of the grade: quizzes (10%), laboratory work and reports (15%), homework (20%), participation (10%), midterm examination (20%) and final examination (25%). Partial credit is given in quizzes and examinations.

The following letter grades will correspond to the student's grade total obtained according to the above scheme:

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

Plus or minus grades will be given, where applicable.

The course instructors are generally available five days a week. Office hours will be announced in class and posted on the instructor's door.

Instructors' offices:

Lab sections 101-104, Fr. John Milton, Byrne 103, (773) 325-4238, e-mail: jmilton@depaul.edu.

Lab sections 105-108, Dr. Andrew Morrison

Required Materials:

Text: **College Physics**, 8th edition, by Serway and Vuille, Brooks/Cole, 2009.

(A Student **Solutions Manual** and **Study Guide** from the same publisher is available in the bookstore.)

Laboratory Manual: **Physics 150 Laboratory Manual**, Ninth Edition, DePaul University, 2008.

iClicker Available in the bookstore.

Course Web Page: <http://condor.depaul.edu/~jmilton/>