

# Physics 202 Summer 1998. Jeffrey R. Schmidt, jeff@rustam.uwp.edu

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Course reserve materials, lecture notes, old exams; <http://rustam.uwp.edu/202>

**Text;** Fundamentals of Physics; Halliday, Resnick and Walker, any edition.

**Course Policies** Four exams will be given. These exams are 50% cumulative. Under no circumstances will late exams or makeups be given. If you are going to miss a test for any reason, you must take an early exam. I will need 48 hours advanced notice of this to prepare the test.

The fourth exam is comprehensive and cumulative. Exams are given in the combined discussion section.

Attendance is mandatory, and late is absent. If you cannot attend all of the class meetings due to some external conflict, you should think about taking it at some later time when you can complete the minimum requirements.

For each three absences your grade will drop by one-half of a full grade. Attendance will be taken in the form of random five minute quizzes given in lecture. Some people might think that if someone can get an A without attending class, then more power to them. It will be set up so that you cannot get an A without attending class. A significant part of the course material does not appear in the textbook. I am not particularly concerned with what grade an individual gets, I am only concerned that each person who takes a course from me learns most of the course material and achieves some level of operational mastery of the subject problems. This is impossible without regular attendance.

Lab counts as much as one exam. You must perform all labs in order to pass the course. This is another minimal requirement.

Homework will be given daily, collected at the beginning of lecture, and given a pass/fail grade by your TA. Homework handed in late will not be accepted.

Including lab there are 500 points in the course. For an A you must accumulate at least 465, for a B at least 425 and for a C 375. The minimum to pass the course with a D is 250. These cutoffs may be lowered, but will not be raised. Quizzes may be given to help you to accumulate grading points.

In all cases an overall passing average on homework is another minimal course requirement. This means that you should make an effort to hand in all homework assignments.

**Schedule.** There is an exam given in discussion section at the end of every two week period.

There are eight pre-lab simulations run using Live-Connect, a combination of Java and JavaScript, available at Virtual Lab. These are designed so that you can take data from a Java simulation of the working lab apparatus, write up a report based on this data, and hopefully use it to prepare for or enrich

your lab experience. At this stage these are experimental, being designed to assist disabled students in completing the lab requirement for the course. Any lab that also has a pre-lab simulation is linked to that simulation in the schedule below. If you participate in these activities, you will receive extra credit for each one that you perform and hand in to me. We will negotiate the precise amount of extra credit.

| Lecture | Topic                      | Text  | Exam | Lab    |
|---------|----------------------------|-------|------|--------|
| 1       | waves I                    | 17    |      |        |
| 2       | waves II                   | 17    |      |        |
| 3       | sound                      | 18    |      | S1,S3  |
| 4       | Doppler shift,transmission | 18    |      | S1,S3  |
| 5       | electric forces            | 22    |      | E1     |
| 6       | electric field             | 23    |      | E1     |
| 7       | potential                  | 25    |      |        |
| 8       | Gauss law I                | 24    | I    |        |
| 9       | Gauss law II               | 24    |      | E2     |
| 10      | conductors                 | 26    |      | E2     |
| 11      | capacitance                |       |      | E3     |
| 12      | resistance                 | 27    |      | E3     |
| 13      | dielectrics                | 26    |      | Review |
| 14      | Kirchoff's laws            | 28    |      | Review |
| 15      | circuits I                 | 28    |      |        |
| 16      | circuits II,relativity     | 38    | II   |        |
| 17      | relativity II              | 38    |      | E6     |
| 18      | magnetic field             | 29,32 |      | E6     |
| 19      | Ampere's law               | 30    |      | E7     |
| 20      | Faraday's law              | 31    |      | E7     |
| 21      | RLC cir., Mag. matter      | 32,33 |      | E8 A,B |
| 22      | AC circuits I              | 33    |      | E8 A,B |
| 23      | AC circuits II             | 33    |      | E9     |
| 24      | Maxwell's Equations        | 34    | III  | E9     |
| 25      | EM radiation               | 34    |      | L8     |
| 26      | Optics                     | 35    |      | L8     |
| 27      | Snel's law                 | 35    |      | L2     |
| 28      | mirrors, lenses            | 35    |      | L2     |

|    |              |    |    |
|----|--------------|----|----|
| 29 | Young's exp. | 36 | L1 |
| 30 | interference | 36 | L1 |
| 31 | diffraction  | 37 |    |
| 32 | gratings     | 37 | IV |

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