

The University of Akron

Department of Physics

3650:291-002

Elementary Classical Physics I

Fall 2009

Ayer Hall 19

MWF

1:10 – 2:00 PM

Instructor: Dr. S.V. Dordevic (Ayer 207, [dsasa@uakron.edu](mailto:dsasa@uakron.edu) , 330-972-8512)

Office Hours: MW 9:55 AM – 10:55 AM or any other time by appointment.

Course web page: <http://nebula.physics.uakron.edu/dept/faculty/svd/291.htm>

Textbook: *Physics for Scientists and Engineers, 4<sup>th</sup> edition, D. Giancoli.*

PLEASE NOTE: Students whose names do not appear on the official class list for this course by the second week will not be allowed to participate in, or receive credit for this course.

The main objectives of the course:

1. Learning **fundamental physical principles, generalizations and theories**
2. Gaining **factual knowledge (terminology, classifications and methods)**
3. Learning to apply course material to **problem solving in order to improve thinking**

There are two aspects of education: teaching and learning. As an instructor, I will attempt to **teach** you the principles, the logic, and how to apply them to various problems in this course. It should be remembered that physics requires simplifying the real problem to the point that it could be either solved or the underlying principles could be understood. Your role as a student is to **learn** the material. Learning is an individual effort on your part, requires motivation and dedication, and will determine the grade you earn. Different students have different ways of effective learning and you must develop and follow your own way(s) of learning. Remember, **learning is never easy**. It requires continuous hard work and diligence. There must be a continuous dialog between us in the form of class discussion, and participation. While I will pose problems to you, it is also important that you also seek learning by asking questions during lectures. Therefore, pay close attention to your effort level and progress to see if you are meeting your potential. If a topic or idea is not clear, **do not hesitate to ask questions**.

Grades will be based on the following table:

|                       |              |                  |
|-----------------------|--------------|------------------|
| Five one-period exams | 75 %         | (5 x 15 %)       |
| Laboratory            | 15 %         |                  |
| Homework              | 10 %         | (14 assignments) |
| <b>TOTAL</b>          | <b>100 %</b> |                  |

A total score of 70 % will earn a grade of not less than a C+.

## Exams

Five one-period exams will be given on the dates listed below over the tentatively specified textbook sections. The one-period exams will emphasize the material either covered in class or in the specified sections and will contain both theory-based questions and numerical problems. They may also include material related to the relevant sections but covered only in the laboratory. **Each exam will be closed book. No notes will be allowed. No calculator will be allowed. No make-up exams will be given.**

| Exam # | Chapters covered | Date of exam |
|--------|------------------|--------------|
| 1      | 2, 3, 4          | September 11 |
| 2      | 5, 6, 7          | October 2    |
| 3      | 8, 9, 10         | October 23   |
| 4      | 10, 11, 12, 14   | November 13  |
| 5      | 17, 18, 19, 20   | TBA          |

## Laboratory

Each student must register separately for one section of the 291 laboratories during the same semester that the lecture is taken. The lab room is Ayer 100. The laboratory score is an important component of the final grade. Moreover, **FAILURE IN THE LABORATORY AUTOMATICALLY RESULTS IN A FAILING GRADE IN THE COURSE. MISSING THREE OR MORE LAB SESSIONS WITHOUT MAKING THEM UP WILL RESULT IN FAILURE OF THE LAB AS WELL AS THE COURSE.** The labs begin on the second week of classes. Purchase a 291-lab manual from the bookstore and bring it with you on the first day of your lab. You must also bring an 8.5 x 11 spiral notebook. They will be discussed in the class.

## Homework

The problem sets will be collected on the dates given on the last page. The list of problems in each set is tentative, and may be changed at the instructor's discretion. All exercises and problems count equally and will be graded on a 0-, 5-, 10-point basis for each problem: zero for no attempt or completely wrong, 10 for a correct solution, and 5 for anything between these two extremes. Students are encouraged to work together in groups to solve them, but each must hand in her/his own work in his/her own wordings. **Copying someone's work will penalize both.** No homework problems will be accepted after the beginning of the class period on the day the problems are due.

**Important Note:** According to the university policy, we are not allowed to publicly disseminate graded work. For this reason, staple a blank cover sheet with your name only to the front of your homework. Otherwise, the homework will not be accepted.

## HOMEWORK ASSIGNMENTS

| Assignment # | Due Date | Chapter  | Problems                      |
|--------------|----------|----------|-------------------------------|
| 1            | 08/31    | 2        | 3,11,24,25,37,42,57,61        |
| 2            | 09/09    | 3        | 9,21,29,32,35,43,46,58        |
| 3            | 09/14    | 4        | 6,10,13,27,40,45,46,48,51     |
| 4            | 09/21    | 5        | 6,9,17,18,23,30,34,44         |
| 5            | 09/28    | 6        | 2,3,10,11,14,24,27,39,48      |
| 6            | 10/05    | 7        | 3,9,23,35,38,40,53,57         |
| 7            | 10/12    | 8        | 5,8,16,19,20,29,35,45,68      |
| 8            | 10/19    | 9        | 4,9,14,16,34,44,54,57         |
| 9            | 10/26    | 10       | 3,12,22,25,30,41,67,70        |
| 10           | 11/02    | 11       | 2,7,11,29,37,41,47            |
| 11           | 11/09    | 12       | 1,5,12,15,18,26,35,42         |
| 12           | 11/16    | 14       | 4,10,13,16,17,36,39,42,56     |
| 13           | 11/23    | 17<br>18 | 8,14,31,37,51<br>1,4,7,14     |
| 14           | 11/30    | 19       | 1,8,18,28,31,32               |
| 15           | not due  | 19<br>20 | 42,51,57<br>1,2,8,10,14,32,34 |

### Additional Notes

- The optional 1-credit Physics I Computations course is coordinated with the lecture and intended to help students with solving the homework problems. It is a separate course from the 291-lecture and lab, and must be registered for separately. Be sure to register immediately if you are interested in taking it, to comply with university deadlines. No separate textbook is required and no extra homework assigned.
- **Attendance is not a part of the grade for the course, but each student is responsible for any material or announcements that are missed as a result of absence.** Be careful to check with other students in the class to get whatever information was given or the material covered while you were away. Any in-class work that you miss as a result cannot be made up.
- We will be conducting an entrance survey, sometime in the 1<sup>st</sup> or 2<sup>nd</sup> week, and an exit survey sometime in the 14<sup>th</sup> or 15<sup>th</sup> week. The surveys are for assessment purposes only, they will not affect students' grades in any way. Students' anonymity will be maintained.