**PHY 232**

**General University Physics**

Spring 2007

Lecture Times: MWF 10:00 AM – 10:50 AM
Lecturer: Ivan Horvath
Office Hours: M 11:00 AM – 11:50 AM
F 11:00 AM – 11:50 AM
Phone: 257–7147
E-mail: horvath@pa.uky.edu

**Introductory Notes**

1. Read this syllabus carefully and save it for current and future reference.

2. There is a *lecture* and *recitation* component to the course. Attend the recitation section to which you have been assigned. Learn your recitation section number, your meeting time and place (see SCHEDULE OF CLASSES) and your recitation instructor’s name. All recitations are held on Thursdays.

3. The laboratory associated with Phy 232 is administered as a different course Phy 242 with a different instructor.

**Course Description**

Phy 232 is part of a sequence of introductory physics courses for science and engineering students. In this course you will study the subjects of *electricity, magnetism, and light*.

Apart from learning the basic laws of nature, the underlying goal for sequence of courses including Phy 232 is to develop analytical thinking as well as the ability to retain, organize and employ facts purposefully, critically, and effectively. Such skills will help the student to understand, appreciate and competently assess modern science and technology.

The outline of basic topics covered is as follows:

- electric and magnetic fields as a tool to describe electric and magnetic phenomena
- basics of electronic circuits
- Maxwell equations and electromagnetic waves
- some basic properties of light

**Textbook**

Web Site
The internet site for this course is http://www.pa.uky.edu/~horvath/courses/phy232s07/. Here you will find some basic information about the course, this complete syllabus and, more importantly, the current reading and homework assignments (see below). Selected important reminders and announcements can also be found there.

Lectures
The entire class will meet for lectures according to the schedule specified above. Note the following.

1. The chief purpose of the lecture is to expose and bring into clear view the main ideas governing the subject matter discussed. As such, it will not necessarily discuss every detail you will be expected to know. That scope will be defined by precisely specified reading material from the textbook (see below).

2. At every lecture, the reading material for the next lecture will be announced. You are strongly encouraged as well as expected (the lecturing style will sometimes assume it) to read this material before coming to class.

3. At every lecture, the homework problems associated with the material covered by that lecture will be announced. Solving the assigned problems the day of the lecture contributes greatly to efficiency of both learning the subject and getting your homework solutions ready on time. Few additional problems will be assigned at the lecture as well. It is strongly recommended that you solve these problems also in order to understand the material better and to get ready for the exams.

4. There will be occasional simple quizzes for credit administered during the lecture. These quizzes will occur with approximate frequency of one per week. Please always keep an empty sheet of paper with your name and recitation section number ready. Your answers will be collected immediately following the quiz.

Recitations
The focus of recitations is on problem solving which will help you both to grasp the material better and to prepare your homework solutions.

1. Problems very similar to those in current homework assignments will be typically solved during the recitation. Quite often one or two problems directly from the homework list will be explicitly discussed. Note that you are still required to hand in your own versions of the solutions to these problems to your recitation instructor in due time.

2. You will be asked to solve a short quiz–like problem for credit during the recitation. Your solutions will be returned graded together with your current homework assignments.

The Homework Cycle
Your solutions to homework problems will be submitted for grading on a weekly basis. It will work as follows.

1. The homeworks are due on Friday at 5.00 PM to your recitation instructor. You should submit the solutions to all problems assigned the previous Wednesday, Monday and Friday. Note that if it happens that there is no lecture on one of those days (e.g. due to a holiday), simply submit the solutions for lectures that took place and where problems were assigned.
2. The solutions you submit will be graded and returned to you in the upcoming recitation section after the homework due date.

Examinations and the Distribution of Credit

The components of a course grade are as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test #1</td>
<td>20%</td>
<td>Feb 21</td>
</tr>
<tr>
<td>Test #2</td>
<td>20%</td>
<td>Apr 4</td>
</tr>
<tr>
<td>Final</td>
<td>30%</td>
<td>Apr 30 at 10.30 AM</td>
</tr>
<tr>
<td>Homework</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Lecture</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Recitation</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

The expectation is that if your total score at the end of the semester is at least 90% you will receive an A; at least 75% a B; at least 60% a C; at least 50% a D. Note however that these thresholds can be revised downward if the overall class average is low.

You need to know the following in this regard:

1. **Writing & Style.** The credit for your written solution of a given problem will not be based solely on a correct numerical answer (if applicable). It will also depend on the level of your reasoning, its clarity and coherence. This applies to all of the written communication you will require to make in this class, including homework problems, recitation quiz problems (see below) and the examination problems.

2. **Homework Credit.** In each homework cycle the percentage of the maximal score awarded to your solutions will be recorded. The average of these percentages at the end of semester will determine how well you did on the homework part of the grade. Two assignments with worst percentage score will be dropped in the averaging procedure. This is very lenient and is meant to help you not to worry too much in case you are not able to turn in the homework problem solutions due to illness or other serious reason. Accordingly, please do not petition me or your recitation instructor for excused reasons for not turning your homework in. You are given two automatically and should save them for when you really need them.

   The credit for given weekly assignment will be based on grading three problems out of the whole list. These three problems will be selected at random and will be the same for each student. This is to ease the large amount of grading associated with such a large class. At the same time, I find the grading by a person much more valuable for the students than computerized homework systems because they will provide more beneficial feedback.

3. **Recitation Credit.** The recitation credit will be based on your scores in recitation quizzes, and will be determined according to the same procedure as for the homework credit. Note that this includes dropping two worst scores.

4. **Lecture Credit.** The lecture credit will be based on in-class quizzes. In each quiz for credit you will receive two points for submitted answer that is incorrect, and five points for the submitted answer that is correct. The averaging procedure is otherwise the same as for homework/recitation credit including dropping two quizzes with lowest score.
5. **Exams.** The duration of in–class tests will be fifty minutes (single lecture) while the final will be a two–hour exam. Roughly half of the final will be devoted to the material covered after the second in–class test with other half comprehensive.

If you anticipate missing an exam for a serious reason, provide me with a written request and supporting documents (such as official letters from relevant persons/institutions) at least one **week in advance**. Notify me as soon as possible after unexpected emergencies in your immediate family. If you are physically unable to take an exam due to illness, contact me by e–mail as soon as you find out and be prepared to provide documentation (a **contact phone number from a physician** or a **signed note from a university official**). If you miss an exam without a valid excuse, you will receive a zero for the exam. If you miss a single exam with a **properly excused** absence, you will be given a make–up exam of equal difficulty in most cases. If you miss the final examination or two fifty–minute tests, you may, at my discretion, get an I–grade only if you have a valid excuse and the average of your exam scores indicate a possibility of passing a course. You will have to complete a course at another time.

If you find a serious error on the grader’s part, you may submit an exam for re–grading. If such situation arises, first make sure that you understand how to solve the problem correctly. Then, within two days of receiving your exam back, provide a clear explanation of your request on a signed sheet of paper to your recitation instructor who will forward it to the grader. Make no marks on the solution so that it can be compared to a photocopy on file. Any appeals concerning grades for exams must be resolved within a week of receiving your exam back.

6. **Cheating.** University policy stipulates severe consequences for anyone who cheats on exams. The corresponding guidelines will be strictly followed in this course.

**Course Evaluations**

Course evaluations are an important component of our Department’s instructional program. An on–line course evaluation system was developed to allow each student ample time to evaluate the course and instructor, thus providing the Department with meaningful numerical scores and detailed commentary while optimizing the loss of instructional time in the classroom. The evaluation window for Spring 2007 is from Apr 9 until Apr 23. To access the system then, go to [http://www.pa.uky.edu](http://www.pa.uky.edu) and click on Evaluations. You will need to use your student ID number to log into the system, and this will also allow us to monitor who has filled out the evaluation. Note however that you will be assigned a random number when you log in which will keep all your comments and scores anonymous. You will receive an **extra 1% credit** if you participate in evaluating the course.

**Final Notes**

1. Your main resources for this course are your **textbook**, your **lecturer** and your **recitation instructor**. Please stick to the textbook and do not make yourself dispersed by looking excessively for things on the internet or many other books. Study the textbook carefully and you will find the answers that you need there.

2. Do not hesitate to contact your recitation instructor or the lecturer if you are really stuck with something. Do it immediately after the problem arises so it can be fixed while it is “hot”. You will be much less efficient in absorbing the new material if your understanding of material already covered is compromised.

3. Good luck!
Amendment on Homework

1. Discussion of homework problems among yourselves is allowed and encouraged.

2. Copying from one another is not allowed!

3. Copying from any external sources is not allowed!

4. If copying or other plagiarism is detected, the minimal penalty is the annulment of all your homework credit scores. This means that you will get zero credit for the homework part of the overall grade. You will also lose the privilege to participate in the homework system i.e. your solutions, if you choose to submit them, will not be graded.

5. More serious disciplinary action consistent with the university cheating policy will be followed, depending on the situation.