PHYS 2211L
Principles of Physics I Laboratory Fall 2018
Dr. Marco Guzzi

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Laboratory Schedule Phys: 2211L - Fall 2018
Fall Classes Start: 08/13/2018      Fall Classes End: 12/03/2018
Physics I Labs start: 08/24/2018

<table>
<thead>
<tr>
<th>Date</th>
<th>Lab No.</th>
<th>Experiment Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Aug</td>
<td>Lab1</td>
<td>Free Fall</td>
</tr>
<tr>
<td>31-Aug</td>
<td>Lab2</td>
<td>Atwood's Machine</td>
</tr>
<tr>
<td>3-Sep</td>
<td>NO LABS</td>
<td>LABOR DAY HOLIDAY</td>
</tr>
<tr>
<td>7-Sep</td>
<td>Lab3</td>
<td>Friction</td>
</tr>
<tr>
<td>14-Sep</td>
<td>Lab4</td>
<td>Centripetal force</td>
</tr>
<tr>
<td>21-Sep</td>
<td>Lab5</td>
<td>Conservation of Energy and Momentum</td>
</tr>
<tr>
<td>28-Sep</td>
<td>Lab6</td>
<td>Rotations</td>
</tr>
<tr>
<td>5-Oct</td>
<td>Lab7</td>
<td>Equilibrium</td>
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<tr>
<td>12-Oct</td>
<td>Lab8</td>
<td>Simple Harmonic Motion</td>
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<tr>
<td>19-Oct</td>
<td>Lab9</td>
<td>Standing Waves and Resonance</td>
</tr>
<tr>
<td>26-Oct</td>
<td>Lab10</td>
<td>Thermal Properties</td>
</tr>
<tr>
<td>2-Nov</td>
<td>NO LABS</td>
<td>NO LABS</td>
</tr>
</tbody>
</table>

Labs: PHYS2211L, Friday, 12:00pm-13:50am, Academic Building 255, Marietta Campus.

Office hours:
PHYS 2211L - 3pm - 4pm, Friday

**Catalog course description**

PHYS 2211L “Principles of Physics I Laboratory”
0 Class Hours, 2 Laboratory Hours, 1 Credit Hours

**Co-requisite:** PHYS 2211

**Material required:**
Physics 2211 experiment material for each lab, Pen/Pencil, lab manual and a calculator.

**Course content**

PHYS 2211L is an introductory laboratory for the calculus-based course on classical mechanics, and waves. The student will be able to apply Newton's laws and conservation of energy and momentum to various problems in the laboratory, and perform measurements of simple harmonic motion, oscillations, and waves. The analysis of sources of error and formal propagation of uncertainties will also be developed, as well as graphical techniques and the method of least-squares fits.

**Learning Outcomes**

- Explain and interpret physical situations as stated in a word problem.
- Identify the physical laws appropriate to a given physical situation.
- Predict the behavior of representative physical systems using math and physics laws as tool.
- Interpret the outcome of a physical system.
- Use various types of electronic data collection tools for the experimental investigation of physical laws.
- Represent physical systems in multiple representations mathematically, pictorially, graphically.

Understand uncertainties in measurements and error analysis.

**Attendance Policy:** You must attend all the labs. There will not be any make up labs. If you are unable to attend a lab you will get a zero grade for that lab. Students are solely responsible for managing their enrollment status in a class; nonattendance does not constitute a withdrawal.

**About Lab Reports:**

After each lab-experiment section students are required to show their collection of data and get the signature of the instructor before leaving the lab. Students might have the option to submit their final work in the next lab, depending on the length of the lab experiment.

If the lab experiment does not involve extensive calculation, answers in words to questions, or graphing, students are expected to remain in the lab room until submission of the complete lab report.

If the lab experiment does involve a graph, or written answers to questions, students may be allowed to complete their lab report at home. There are two important things about this:

1) all lab reports taken home are due at the beginning of the next lab period and will be counted as late any time after that.

2) all lab reports taken home must be initialed by the lab instructor prior to being the experiment. 

No lab reports taken home from the lab room and subsequently submitted without the lab instructor’s initials will be accepted for credit. There will be no exceptions to this policy. [However, it is not necessary to obtain the lab instructor’s initials on lab reports submitted in the lab on the same day the lab experiment is performed.] Late reports will be accepted with a 50% (per week) penalty.

Lab reports are to be submitted on the data sheets that are contained in the Lab Manual. The top portion of those sheets includes a line for a list of lab partners. Failure to fill out the lab partner list will result in a 1-point deduction from the lab score. For any lab experiments that require multiple pages to be submitted, those pages must be properly joined together with either a paper-clip or a staple.

There are staplers located in the lab room. A 1-point deduction will also be applied for failure to properly join pages together.

**Important:**

1. All tables should be labeled and titled properly with appropriate units.
2. All graphs should be labeled and titled properly with appropriate axis labels
3. Always begin the numbering of each axis with zero.

**Group Policy:**

Students may work in groups of no more than 3 students. For experimental reports, every member of a group will turn in their individual report with the names of the group member legibly printed on the cover page.
**Attendance Policy:**
Attendance for each session of this course is required. The information covered in each class is pertinent to understanding of the entire course. Students are solely responsible for managing their enrollment status in a class; nonattendance does not constitute a withdrawal. Official KSU policies regarding withdrawals from classes (as well as additional information on additional registration-related policies) can be found at the following link:
http://catalog.kennesaw.edu/index.php

**Do's and Don'ts**
1. Regular lab attendance is essential for success in this class.
2. Be on time for the lab.
3. For safety reasons students are recommended to wear closed-toed shoes. Do not come to the lab room wearing flip-flops or sandals.
4. Cellular telephones, pagers, and similar devices must be turned off or placed in silent mode during lab. Use of cell phones should be restricted to emergencies.
5. During lab experiments, avoid loud conversation and other disruptions that distract other students.
6. Occasionally, it may be necessary for the instructor to make corrections or changes to the syllabus. Corrections or changes to the syllabus will be announced on D2L (see below) and in class: students are expected to check D2L for announcements at least once a day.

**Grading policy**
Your lab will be graded on a 20-point scale per experiment meaning each student can accumulate 180 points at the end of the 10 experiments. The lowest grade will be dropped and there won't be any final exam for this lab.
Grades: A >90%; B 80%-90%; C 70%-80%; D 60%-70%; F <60%

**D2L (Internet-based utility)**
Course information and announcements will be available “D2L.”. This on-line course information system is accessible from http://d2l.kennesaw.edu/. To sign on, use your KSU Local Area Network (LAN) username and password. **Students are expected to check D2L for announcements at least once a day.**

**Withdrawal, first day of Lab**
- First Day of Lab: Friday August 24, 2018
- Last day to withdraw without academic penalty: Wednesday, October 3, 2018.

The university's withdrawal policy is explained at:
http://registrar.kennesaw.edu/student-records/registration-policy.php

The Academic Standing Appeal policy is explained at:
https://appeals.kennesaw.edu/withdrawal_appeal.php

Students are solely responsible for managing their enrollment status in a class.

**Academic Integrity**
Every KSU student is responsible for upholding the provisions of the Student Code of Conduct (http://scai.kennesaw.edu/codes.php), as published in the Undergraduate and Graduate Catalogs. The Student Code of Conduct addresses the University's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to University materials, misrepresentation/falsification of University records or academic work, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the University, which include either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement.

**Students with Disabilities**
Any student with a documented disability or medical condition needing academic accommodations of class-related activities or schedules must contact the instructor immediately. Written verification from the KSU Student Disability Services (http://sds.kennesaw.edu/) is required. No requirements exist that accommodations be made prior to completion of this approved University documentation. All discussions will remain confidential.
Other Policies

Inclement Weather
For the official status of the university check the KSU website [http://www.kennesaw.edu](http://www.kennesaw.edu)