

Syllabus

Course: PHYS 170L-5 Fall 2019 General Physics I Laboratory: Mechanics

Lab Schedule: R 9:00-11:50

TA: Stephen Hill

Email: HillSJ@hawaii.edu

Office: WAT421

Office Hours: W: 2:00-4:00

Website: <http://go.hawaii.edu/MNG>

Text: The lab manual for the mechanics section can be downloaded from the website listed above.

Student learning outcomes:

- To understand the importance of experiments as the basis of the scientific method.
- Better understand physics concepts covered in lecture by seeing their application in experiments.
- To obtain experience in the techniques employed by scientists in all fields for analyzing data and drawing conclusions from "real world" experiments.
- Report your result in a scientific fashion.

Preparation for the lab:

- Prepare a notebook:
 - On the book's front cover print your name, class, section, and name of your TA.
 - This book will be used to record the data.
- Use a pen for all data recording and quizzes.
- Read the lab instructions for the upcoming lab and bring the lab manual to class.
- Bring a scientific calculator, ruler, and tape.
- Wear closed shoes.

What to expect:

- Each student is expected to perform all experiments. Please see the rules for make-up experiments below.
- The class will start most times with a 10-15min quiz, potentially followed by a quick discussion of the answers.
- This is followed by a ~30min lecture from the TA. It is expected that the students interact a lot and ask questions. This will help to be more efficient when conducting the lab and writing the lab report.
- For the remaining ~2h, the students will conduct the experiments in groups of two and start the data analysis. Students should pay close attention to the instructions of the TA and the lab manual. Careful experimentation will result in better data. If something is unclear the TA is ready to help.
- Every lab is 2:50h long. You are expected to be on time and you are expected to stay until the end of the lab and to not leave early. If you finish early work on the lab report.
- A new random group partner will be assigned every two weeks.
- Nobody should leave without the TA signed data tables.

Lab report:

- Submission (both conditions have to be fulfilled):
 - Reports have to be submitted on Laulima as a single **pdf** file. Typical test processing software should be used (word, libreoffice, google doc). The pdf file needs to be submitted before the deadline date (at the beginning of the next lab).
 - Printouts of the reports **must** also be handed over to your TA at the beginning of each lab. (During or after lab will be considered as late). Working on previous lab reports in class is strictly prohibited.
- The lab reports make up 60% of the grade. If a lab report is not submitted the grade for the experiment is 0%.
- Penalties for late reports:
 - 1 week – 15% off
 - 2 weeks – The report will not be accepted → **results in one missed lab**

Quiz:

- It will contain about five questions from the current lab and the previous lab.
- Be prepared for those quizzes by reading the relevant chapters from your manual.
- ☐ The quizzes make up 40% of the grade.

Grading:

Final grades will be curved over all sections. The typical outcome over all sections is approximately 25% A's, 40% B's, 35% C's and below. Every experiment carries the same weight for the grade calculation.

Cheating:

- No cheating and copying is allowed. This includes copying data from another student.
- The groups will collaborate to conduct the experiment and also to start the initial analysis in the lab room together. However, the final analysis at home has to be conducted individually.
- No collaboration for quizzes.
- A student who was caught cheating would be given a zero for that lab/quiz (may also lead to a direct fail of the course).

Being late:

- This lab has a strict late policy. Missing parts of the lecture can potentially result in safety hazards and damaging behavior to the equipment.
- It is within the discretion of the TA to decide if a late student will be allowed to conduct the experiment or fail the experiment.
- Generally, being late by more than 30min automatically results in a missed experiment. This lab has to be made-up if the late arrival was excused with a reasonable explanation. Without a reasonable explanation the lab cannot be made up and the student receives 0% for the experiment.

Missed Labs:

- To receive full credit, a student must inform (email or call) his/her TA before or immediately after the missed lab. The student is responsible for arranging for a make-up experiment. The TA will assist the student with this process. The TA is not responsible for contacting the student after a missed lab to schedule a make-up experiment.
- If the TA was not contacted on the same day and the student cannot produce a doctor's note or any other evidence the lab cannot be made up. In this case, the student receives 0% for the experiment.
- A total of **two** make-up experiments is allowed. Any further misses, will result in failing the course. Special circumstances requiring to soften this rule should be brought to the attention of the TA as soon as possible and will be decided on a case-by-case basis. The lab will be either made up in the other section of the TA or with another TA.
- In case of scheduling conflicts, it is the student's responsibility to make time for the make-up experiment. It cannot be expected that the TA will conduct the experiment exclusively with the student on their own time. Special arrangements will be found for missing a lab in the last week of the semester.
- On a case-by-case basis, the TA will decide if she/he will provide a make-up quiz as well.
- Making-up of missed labs will be in the same week or by the following week. If a student is excused for a longer period special arrangements will be decided on a case-by-case basis. This should be brought to the attention of the TA as soon as possible.
- **Only one lab can be missed without making it up to be able to pass the class.** This will result in a 0% score for both quiz and report. A second lab that is missed and not made up (see rules for make-ups above) will result in failing the course.
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Lab Schedule by Week:

Date	Experiment
9/5	General Course Information/Dimensional Analysis and Linearization
9/12	Introduction to Vectors/Introduction to Error Calculation
9/19	The Mathematics for Handling Errors/Vector Addition with a Force Table
9/26	The Normal Distribution with Darts
10/3	Gravitational Acceleration on an Inclined Plane
10/10	Gravitational Acceleration with a Pendulum
10/17	Conservation of Energy and Momentum in a Collision
10/24	Conservation of Energy with a Pendulum
10/31	Moment of Inertia of a Wheel
11/7	Natural Oscillations with a Spring
11/14	Driven Oscillations
11/21	Fluid Drag

The University of Hawai'i is committed to providing a learning, working and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, the University has staff and resources on your campus to support and assist you. Staff can also direct you to resources that are in the community.

Here are some of your options:

Anonymous and Confidential

If you wish to remain Anonymous, speak with someone Confidentially, or would like to receive information and support in a Confidential setting, contact the confidential resources are available at www.manoa.hawaii.edu/titleix/resources/#confidential

or

If you wish to remain Anonymous, speak with someone Confidentially, or would like to receive information and support in a Confidential setting, contact:

Lesbian, Gay, Bisexual, Transgender (LGBT) Student Services

Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) Student Services strives to maintain a safe and inclusive campus environment that is free from harassment and discrimination. The office provides direct services to students of the University of Hawai'i at Mānoa to confidentially discuss or seek advocacy and support for mistreatment due to their actual or perceived sex, gender identity, gender expression, or sexual orientation.

Camaron Miyamoto
Queen Lili'uokalani Center for Student Services, Office 211
2600 Campus Road
Honolulu, HI 96822
(808) 956-9250
email: lgbtq@hawaii.edu
web: <http://manoa.hawaii.edu/lgbt/>

Office of Gender Equity

The Office of Gender Equity offers direct services to victims and survivors of sexual harassment and sexual assaults. Brief descriptions of services offered are available here.

Jenna Friedman
Queen Lili'uokalani Center for Student Services, Office 210
2600 Campus Road
Honolulu, HI 96822
(808) 956-9499
email: geneq@hawaii.edu
web: manoa.hawaii.edu/genderequity

Prevention, Awareness, and Understanding (PAU) Violence Program

Prevention, Awareness, and Understanding (PAU) Violence Program exists to inspire, educate, and empower students and campus communities to build safe living-learning environments, end interpersonal violence, and encourage holistic well-being in ways that are supportive, collaborative, student-centered, and strengths-based. PAU Violence Program staff provides direct services to all University of Hawai'i at Mānoa students including crisis response, safety planning, academic support, and referrals to campus and community resources.

Jennifer Barnett Leslie Cabingabang
Queen Lili'uokalani Center for Student Services, Office 211
2600 Campus Road
Honolulu, HI 96822
(808) 956-8059
email: uhmpau@hawaii.edu

Student Parents At Mānoa (SPAM)

Student Parents At Mānoa (SPAM) seeks to increase the visibility of and resources for student parents at UH Mānoa as they pursue education while parenting. SPAM staff provide advocacy, support, and referrals for pregnant and parenting students to help them succeed in their educational goals.

Teresa Bill
Queen Lili'uokalani Center for Student Services, Office 211
2600 Campus Road
Honolulu, HI 96822
(808) 956-8059
email: gotkids@hawaii.edu
web: manoa.hawaii.edu/studentparents/

Counseling and Student Development Center (CSDC)

The Counseling and Student Development Center (CSDC) offers support to UHM students, staff, and faculty to assist with personal, academic, and career concerns. All services are confidential and most are free of charge for Mānoa students. They also offer free consultation to faculty and staff on personal and student-related issues as well. CSDC office hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday. They also offer immediate walk in appointments for urgent or emergency/crisis services during their regular daily hours.

Queen Lili'uokalani Center for Student Services, Office 312
2600 Campus Road
Honolulu, HI 96822
(808) 956-7927
email: uhmcsdc@hawaii.edu
web: www.manoa.hawaii.edu/counseling/

University Health Services Mānoa (UHSM)

The University Health Services Mānoa (UHSM) is staffed by physicians, nurse clinicians, nurses, and other support staff, and offers a wide range of medical services and programs to UH Mānoa students, with many of the services also available to UH Mānoa faculty and staff and students from other UH campuses. Services include general medical care on a walk-in basis; women's health, sports medicine, psychiatry, and dermatology clinics by appointment; pharmacy and clinical laboratory; and student training, employment and volunteer opportunities.

1710 East West Road
Honolulu, HI 96822
(808) 956- 8965
hawaii.edu/shs/
Reporting

If you wish to Report an incident of sex discrimination or gender-based violence including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence or stalking as well as receive information and support, contact:

Dee Uwono
Director and Title IX Coordinator
Hawai'i Hall, Office 124
2500 Campus Road
Honolulu, HI 96822
(808) 956-2299
t9uhm@hawaii.edu

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled.

My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, Interim EP 1.204, go to www.manoa.hawaii.edu/titleix/