

SYLLABUS

Physics 100 – Survey of Physics

Fall 2019

SEMESTER: Fall 2019

COURSE TIME: MWF 1:30 – 2:20 pm

CREDIT: 3 semester hours

LOCATION: PSB 217

INSTRUCTOR: Dr. Sara Petty

OFFICE: Watanabe 410

EMAIL: pettys@hawaii.edu

OFFICE HOURS: MWF 3 – 4:00 pm

TEXTBOOK(S): Inquiry into Physics, 8th Ed, By Ostdiek and Bord **REQUIRED**

ISBN: 978-1337-605038 (Paper) Publisher: Cengage Learning

SUPPLIES: A basic scientific calculator. There is no need for a graphing calculator. It should be able to express numbers in scientific notation (powers of ten).

COURSE DESCRIPTION: Physics 100 is a general survey course of selected topics in physics intended for non-science majors. A minimum amount of geometry and algebra will be used to for discussions of key developments in physics since 500 BCE through the latest discoveries in the 21st century, such as the Higgs boson and gravity waves.

PREREQUISITE: Basic knowledge of geometry and algebra (Algebra I). Students should be able to interpret graphs, tables and figures. Knowledge of customary or English units is expected and will be expanded with metric or SI units.

LAB: Students may enroll in PHYS 100L for a one (1) semester laboratory credit. It is highly recommended that students enroll in the lab concurrently with the lecture. The lab is instructed by department staff/graduate students and is graded independently of the lecture.

CLASS POLICIES: The University does not have a mandatory attendance policy nor is roll taken each class period. There will be quizzes and in-class assignments that will serve as proof of attendance. Each student is responsible for all materials presented, including lecture notes and in-class demonstrations. If a class is missed for a valid reason (family emergency, medical, university-related travel), it is the student's responsibility to contact the instructor to obtain any assignments or additional information.

CLASS-ID: Include your class ID on all assignments.

ONLINE COURSE MATERIAL ACCESS

LAULIMA: Laulima has been set-up for this course (<https://laulima.hawaii.edu>). You will receive announcements, documents, and additional resources.

WEBASSIGN: This course uses WebAssign for some assignments.

To Register for the PHYS 100-FALL2019 Course:

1. Go to GetEnrolled.com
2. Enter this Class Key: **HAWAII74410044**
3. Follow the on-screen instructions to complete your *WebAssign* registration

OTHER MATERIALS

SCIENTIFIC CALCULATOR: Needs to have scientific notation, trigonometric functions, exponents, & logarithms. Graphing or programmable calculators are allowed, but NOT necessary.

- Bring calculator to exams (necessary!) and lectures (needed for occasional in-class questions).
- Smart phones, tablets, computers, or similar devices are NOT permitted during exams!

ELECTRONIC COPIES: handouts, paper homework assignments, solutions, sample exams, and other course materials will be available through WebAssign or the Laulima sites for this course.

Announcements will be made each class. This includes due dates, updates to the course schedule, where to find resources, and additional practice materials. If you do not attend class, it is your responsibility to get this information from a classmate.

GRADING

Homework 20%
In-class Quizzes 15%

Midterms 25%
Final Exam 40%

Homework (20% of course grade) – weekly homework will be set on WebAssign, or Laulima starting in week 2. No late homework is accepted. No credit is given for late assignments. The two lowest homework grades will be dropped.

- There will be additional assigned problems that you will need to solve on paper to show your work.

“In-class” Quizzes (15% of course grade) – Starting in week 2, 2-3 multiple-choice questions will be given in each class. These questions will *sometimes* cover material in the textbook, set as part of the reading from previous classes, but may cover any topic, including general knowledge of physics that we just covered.

The “in-class” questions will be organized as follows:

- Approximately 30 minutes before each class, a quiz will open on Laulima, containing the question(s)
- At points during class, the question(s) will appear on a slide, in the style of a clicker question. 2-3 minutes will be given in-class to discuss each question
- After those 2-3 minutes, answers will be given by show of hands, or paper voting
- After this, the correct answer will be given, along with the reasoning behind the correct answer
- Shortly after class, the quiz on Laulima will close
- Students may answer the question(s) at any point while the quiz is open

It is not strictly necessary to come to class to do the “in-class” questions, but there is a large strategic advantage in coming to class. Moreover, in some cases the questions will be a little challenging, such that the in-class discussions are very valuable. **The reasoning behind the correct answer is much more important than getting the answer correct.**

Communicating the answers to someone outside class, while in-class, is considered cheating. Communicating the answers to anyone who did not attend the relevant class is considered cheating.

Midterms (25% of grade) –There will be four midterms scheduled, covering 3-4 chapters of material. These will be comprehensive and you should plan on using the entire 50 minutes of class time. The lowest midterm will be dropped from your final grade.

Final Exam (40% of grade) –The final exam will cover all topics and materials given through this course.

CLASS POLICIES

Students and faculty each are responsible for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to define a reasonable space within which they, and the students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender identity, and nationality.

For the benefit of your fellow students and your instructor, you are expected to practice common courtesy with regard to all course interactions. For example:

- Act as mature and responsible adults at all times.
- The use of cell phones is not allowed during class. Ringer volume must be set to silent before class starts.
- In this large class, talking to your neighbor, even very quietly and briefly, is very disruptive. Offenders will be asked to leave class. Students are actively encouraged to ask talkative neighbors to be quiet.
- Laptops can only be used for class related issues (no Facebook, web-surfing, Netflix, etc.) and must have their volume set to completely silent. Students should be aware that their laptop screens are clearly visible to those sitting behind them, so they should refrain from displaying personal, distracting or otherwise embarrassing material.
- Show up to class on time, and be prepared to learn when class starts.

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