PHYS 272: Syllabus
Spring 2024, Prof. Duncan Farrah

1 Practical Details

- Location: MWF, 08:30 - 09:20, online.
- Instructor: Prof. Duncan Farrah (dfarrah@hawaii.edu)
- TA: Athena Engholm (ae39@hawaii.edu)
- Prerequisites: PHYS 151 or 170, MATH 242 or 252A (or MATH 216 with consent)
- Office hours: TBA

2 Connection Details

This course will be held via Zoom:

- https://hawaii.zoom.us/j/94013360830
- Meeting ID and passcode: 940 1336 0830, Kilohoku77
- Join by SIP: 94013360830@zoomcrc.com
- Join by H.323:
  - 162.255.37.11 (US West)
  - 162.255.36.11 (US East)
  - 115.114.131.7 (India Mumbai)
  - 115.114.115.7 (India Hyderabad)
  - 213.19.144.110 (Amsterdam Netherlands)
  - 213.244.140.110 (Germany)
  - 103.122.166.55 (Australia Sydney)
  - 103.122.167.55 (Australia Melbourne)
  - 209.9.211.110 (Hong Kong SAR)
  - 64.211.144.160 (Brazil)
  - 69.174.57.160 (Canada Toronto)
  - 65.39.152.160 (Canada Vancouver)
  - 207.226.132.110 (Japan Tokyo)
  - 149.137.24.110 (Japan Osaka)
  - Meeting ID: 940 1336 0830
  - Passcode: 4789343238

3 Where to get help

If an urgent issue arises, or something comes up that cannot be resolved via the channels below, contact Duncan Farrah. All discussions will be treated in confidence.

If you have **science questions** then contact Duncan Farrah. He will provide help, extra explanations, context, and anything you need to help you understand the scientific content of the course. You can also visit the **Learning Emporium**, which usually has a number of friendly physics people, or the TA, who is also a friendly physics person.

If you have **practical or procedural questions** about the course, e.g. homework dates, class times, etc, **contact the TA, Athena Engholm**.

If you have **questions about the Pearson website**, or anything connected to technical support, contact the Pearson customer service tean; If this adversely affects your ability to use the system, contact the TA.

If you have **questions about PHYS 274L**, contact Prof. Michael Nassir, or the TA for the lab.

4 Learning Outcomes

In this course, we will learn about and understand the following:

- Charge and currents.
- Electric and magnetic fields.
- Field determination for various configurations of charges and currents.
- Forces on charges and currents due to fields.
- Potential energy and potential.
- Electrical circuits (AC and DC) composed of resistors, capacitors, and inductors.
- Energy transfer in electric circuits.
- Maxwell's equations of electricity and magnetism.
- Electromagnetic waves.
- Properties of light.
- Reflection and refraction.
- Mirrors and lenses.

5 Important Notes

AI and Online Testbanks: The use of any kind of AI application or online test bank, including but not limited to ChatGPT, Chegg, Coursehero, to do any kind of assessed work. is strictly forbidden. Any student found doing so will immediately receive an "F" for the entire course and be referred to the Office for Judicial Affairs for further sanction.
Late Submission: Any late submission will only be allowed without penalty for officially sanctioned university activities or reasons, or serious other circumstances. Otherwise, submission beyond due dates will receive zero credit. If you are in any doubt, talk to Prof. Farrah.

6 Attendance Policy

I will not take attendance at each class. That said, attendance at every class is expected as a matter of principle. On a practical level:

- Attendance is necessary to complete in-class quizzes (condicted via Laulima)
- If you know in advance you will not be able to attend class, let the TA know, so that appropriate adjustments can be made for you.
- If an emergency arises and you cannot attend class at short notice, letting me know afterwards is acceptable, if accompanied by appropriate documentation of the event.

7 Class Structure

This class is online synchronous. Each week, there will be a set of activities that progress through the material:

- Lectures. These will not be recorded, and you should take notes during class.
- An online homework, via the Pearson system
- Assigned reading from the textbook and other sources
- A weekly quiz (starting in week 2)
- Optional reading and video resources

At the start of each week, an announcement will be sent via Laulima describing the activities to be completed that week.

8 Office Hours

Office hours are available for this course. Attendance at them is highly encouraged as they afford the opportunity to ask specific questions and receive detailed personal tuition.

9 Exams

This course will have one midterm, and a final exam. The date of the midterm will be announced in the first two weeks of the semester. The Final exam date is set by the university and is available on Star. It is your responsibility to ensure you are available for the exam dates.

Further details of the exam formats will be announced in February. Makeup exams will not be permitted, unless arranged at least a week in advance, and only for a scheduled UH-activity, or in cases of documented emergencies.

10 Online Quizzes

Each week, an online quiz will be assigned via Laulima, based on the material covered that week. The deadline for each weeks quiz will be given in the weekly email.

11 Grading

Course grades will be determined based on the following contributions:

- Online homeworks 20%
- Weekly quizzes 20%
- Midterms 20%
- Final 40%

Two very important notes:

Changes in weightings: THe instructor reserves the right to alter the above weightings at any time and in any way, and to add or remove components, solely at their discretion according to pedagogical need.

I'm unlikely to do this, but: At the instructor's discretion, 80% of the overall course grade can be determined by an impromptu oral presentation of any exam or homework question that a student has completed within the last two weeks and received a score of 90% or more on.

12 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.

The following are considered violations of the student conduct code and are grounds for disciplinary action:

1. CHEATING Cheating includes the intentional use of unauthorized materials, information, notes, study aids or other devices or materials in any academic exercise, or attempts thereof.

2. PLAGIARISM Plagiarism includes the copying of the language, structure, programming, computer code, ideas, and/or thoughts of another and passing off the same as one's own original work, or attempts thereof.

3. FALSIFICATION Falsification includes the statement of any untruth, either verbally or in writing, with respect to any element of one's academic work, or attempts thereof.

4. FABRICATION Fabrication includes making up data and results, and recording or reporting them, or submitting fabricated documents, or attempts thereof.

5. MULTIPLE SUBMISSION Multiple submission involves the submission for credit—without authorization of the instructor receiving the work—of substantial portions of any work (including oral reports) previously submitted for credit at any academic institution, or attempts thereof.

6. COMPLICITY Complicity includes intentionally helping another to engage in an act of academic misconduct, or attempts thereof.

While everyone understands what the conduct code means on quizzes and exams, there is confusion on what it means for homework. Students are encouraged to work together on homework, but your write-ups and web submissions must be independent. Copying, whether by hand or cut-and-paste on your computer constitutes cheating.

The best way to ensure you understand the assigned material is to split off from the group when writing up or submitting your answers. If you copy text or other information from any source for any reason, you must include a citation to that source

When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult with Prof. Farrah before submitting your work.

13 Special Accommodations

There are two resources available for students who may require special accommodations; the KOKUA Program, and the Counseling and Student Development Center.

The KOKUA program (http://hawaii.edu/kokua/) is the UH Mānoa office for students with disabilities. They serve undergraduate, graduate and professional students with learning, physical, psychiatric and other documented disabilities. Students with special needs or circumstances who have not already done so should contact the KOKUA program as soon as possible. Students who have accommodations from the KOKUA program should contact Dr. Farrah as soon as possible. In general, if you are a student with special needs or circumstances, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please make an appointment to see Dr. Farrah as soon as possible during office hours. All discussions will be treated with the strictest confidence.

The Counseling and Student Development Center (http://www.manoa.hawaii.edu/counseling/, (808) 956-7927) offers counseling services to students no matter what is troubling them. These services include individual counseling, group counseling, couples therapy, and career counseling. If you are feeling stressed or overwhelmed, or struggling to deal with events in your personal or family life, then the CSDC is here to

help. Feeling stressed and overwhelmed when you first come to university, or even after having been here for a few years, is common, and there are people and resources to help you through. Steps can also be taken to help minimize the impact of life events on academic performance. Counseling sessions are treated in the strictest confidence. If you wish, you can also discuss anything along these lines with Prof. Farrah, again in strict confidence.

14 Discrimination and Harassment

The diversity of students and staff that contribute to this class is a core strength that is critical to its educational mission. Every member of the class is expected to contribute to an inclusive and respectful culture. Dimensions of diversity can include sex, race, age, national origin, ethnicity, gender identity and expression, intellectual and physical ability, sexual orientation, income, faith and non-faith perspectives, socio-economic status, political ideology, education, primary language, family status, military experience, cognitive style, and communication style. The individual intersection of these experiences and characteristics build to form a valuable and positive educational environment.

If there are aspects of the design, instruction, and/or experiences within this course that result in barriers to your inclusion or accurate assessment of achievement, please notify Prof. Farrah as soon as possible. Any student who believes they have been subject to discrimination or harassment on any of these grounds should contact the relevant university body. A complete listing is available at: http://manoa.hawaii.edu/dps/support.html. They may also contact Dr Farrah.