

Introduction

- Syllabus and prerequisite knowledge

Michael Wong – PHY 1122 Spring 2023

Contact

- **Instructor contact info:**

Michael Wong, PhD.

Office: STM 368

Email: **mwong@uottawa.ca**

Office hours in-person or on MS Teams: **By appointment for now.**

MS Teams: If it says I'm available you can try to message me but I might be afk.

Lab related stuff: please use **phylab@uottawa.ca**

- **TA contact info:**

- Athulya Thulaseedharan (**athul066@uottawa.ca**) will be teaching the DGD.

- Neda Boroumand (**nboro046@uottawa.ca**) will be doing corrections.

Schedules

- **Lectures** are
Tuesday at 10:00 am in **CBY B012**
Thursday at 10:00 am in **MNO E217**
- **Labs** begin week of **May 22** (then every two weeks).
Check the Brightspace LAB website for more information.
- **DGDs** are **Fridays at 1:00 pm (CBY B012)**.
First session: Friday, May 5.
Check the DGD section in Brightspace for more information.
- **Office hours** are by appointment for now (send me an email or message me on MS Teams).

Evaluations

- Assignments: 20% (~10x, in Mastering Physics)
Labs: 20% (5x, every two weeks)
Midterm 1: 15% (Tuesday, **May 30**, during lecture time **10:00 am**)
Midterm 2: 15% (Thursday, **June 29**, during lecture time **10:00 am**)
Final exam: 30% (Thursday, **July 27**, starting at **9:30 am**)
- **NB.** Midterm and final exams will be closed-book in-person evaluations.
 - More info will be available on Brightspace.
 - Academic accommodations through SASS will be respected.

Topics and textbook

- **Textbook:**

Young and Freedman, Sears and Zemanski's University Physics, 15th ed.

- Available at Campus Bookstore (<https://www.bkstr.com/ottawastore/home>)
- You can purchase Mastering Physics by itself or Mastering + eText.
- Used (online or hard) copies are fine but the problem numbers may not be the same.

- **Topics (and order):**

- Electricity (Chs. 21-26)
- Thermodynamics (Chs. 17-20)
- Fluid mechanics (Ch. 12)
- Optics (Chs. 33-36)

Labs

- Labs begin week of May 22nd (you have a lab every 2 weeks). Labs are worth 20% of final grade.
- **Brightspace LAB is separate from course website! Contains:**
 - Exp. details: tutorials, prelab tests, lab manuals, and lab report files.
 - Lab schedule.
 - Breakdown of grades for each experiment
- There will be 5 experiments to carry out as well as an **Exp #0** which is online in Brightspace (due **Friday, June 9 2023 at 11:59 pm**).

Prerequisite / Corequisite

- Prerequisite: OAC or 4U Physics
Corequisite: MAT 1320 or 1321 (preferred) or 1327 or 1330. (Calculus 1)
- Topics you should already know or need to learn:
 - Vector geometry and trigonometry.
 - Basic coordinate systems (rectangular, polar).
 - Basic kinematics (equations for position, velocity, acceleration, forces, energy, Newton's second law, etc...).
 - I will provide a quick review of this.

Engineering and physics

- Engineers apply scientific and mathematical principles to “improve the world”.
 - Designing, building, upgrading, troubleshooting, etc...
- Every engineer is expected to have a solid foundation in fundamental sciences (physics and math).
- This course is a continuation of the concepts learned in high school and/or PHY 1121 (Fund. of phys. I) or GNG 1105 (Engineering mechanics) where we expand on fundamentals like motion, forces, energy, and power into broader topics (electricity, thermodynamics, optics, etc...).

Philosophy of teaching 1st year

- Main topics are “introduced”.
 - Some topics conceptually more difficult to understand will be “taught”.
- Focus of examinations will be on problem solving.
 - Ability to read a problem, understand what is being asked to solve, and applying your knowledge to find the solution.
 - Best preparation is to **practice** problem solving.
 - Sample problems for each chapter will be reviewed.
- Laboratory component teaches proper techniques for:
 - Experimental procedure, data manipulation/analysis, and presentation of results.