Physics 202 (Fall 2020)
General Course Information

Instructors: Prof. Marshall Onellion, onellion@wisc.edu
Prof. Gary Shiu, shiu@physics.wisc.edu

When emailing us, please include "Physics 202" and your Discussion Section # in the subject line.

Prerequisite: Physics 201 or equivalent; first semester calculus (Math 221 or equivalent); algebra and trigonometry.

Materials:

- Text: *Physics for Scientists & Engineers, 9th Edition* by Serway and Jewitt (CH 23–38)
- Course canvas website: https://canvas.wisc.edu/courses/215341
- Lab Manual: *Physics 202 Lab Manual*
- Basic scientific calculator with trig, exponential and logarithmic functions

Textbook Information:
Physics for Scientists and Engineers with WebAssign and ebook
You are automatically charged for your WebAssign materials, so you DO NOT need to purchase anything.

See separate book document for purchase options of loose-leaf version, and WebAssign registration information (for any textbook and WebAssign questions, please contact Lisa Bowers at Cengage Learning lisa.bowers@cengage.com)

Basic requirements for this course

Physics 201 or equivalent

Basic pre-calculus math
Linear and quadratic formulas
Trigonometry: sine, cosine, tangents ...
Vectors

Basic calculus
Simple derivatives of polynomial equations, trigonometric functions, exponentials
Basic integration polynomial equations, trigonometric functions, exponentials

Course team:

Faculty:
Professor Marshall Onellion
Professor Gary Shiu

TAs:

Aravind, Anagha	aaravind@wisc.edu	328	331
Eu, Shu Tian	eu@wisc.edu	312	322
Flores Garcia, Rene	floresgarcia@wisc.edu	305	325
Huemann, Zach	zhuemann@wisc.edu	306	309
Huh, Joon Suk	jhuh23@wisc.edu	323	327
Kumm, Bradley Robert	bkumm@wisc.edu	301	303
Mondal, Susmita	mondal6@wisc.edu	307	311
Phan, Anh	anh@wisc.edu	319	320
Tadepalli, Sai Chaitanya	stadepalli@wisc.edu	310	318
Riswadkar, Ameya Shrikrishna	riswadkar@wisc.edu	329	
Bhatt, Nikita	nbhatt3@wisc.edu	302	
Jiang, Cheng	cjiang74@wisc.edu	304	

Lectures: TR 1:20-2:10pm & TR 2:25-3:15pm
Lectures will be conducted online synchronous via BBCollaborate during the scheduled time. You can attend either time slot. The lectures are meant to supplement your own learning, rather than replace it. Please read the chapter prior to lecture, so that you will know what it's about. The lecture slides and video recordings of the lectures will be available online after the lecture. In addition, lecture demonstrations will be made available as separate video files. Standard lecture pdf files will be linked in the Files Lectures area of the course canvas page. Video files will be accessible on the Lectures page. The professor's office hours are scheduled at 3:30- 4:30pm Tu/Th, immediately after lectures, where we will be available to take questions on the lecture material.

Discussions: Discussions are managed by your section TA. Discussions are the place to clarify ideas, ask questions, and work on problems together. You may ask about the homework before it is due, but your TA won't do your homework for you. You will be graded based on attendance and your participation.

Discussions will be performed using Blackboard collaborate. Your TA will send a direct link before your discussion section and also links will be available in the new BBCollaborate area on the course canvas page. Discussion worksheets will be made available before each week's discussion sections in the Files Discussion Sheets area.

Discussion worksheet solutions will be posted after the weekly homework and quiz associated with that material are complete. Attendance for discussion section is still mandatory.

Labs: The purpose of the labs is to give you exposure to experimental physics, and to give you some skills writing down observations in an organized manner. The lab topic may precede coverage of the topic in lecture. That's fine, because in the real world, we don't get a lecture before we carry out an experiment. It's good to see stuff happen without knowing 'why' – that's a huge part of physics.

pdfs of the lab manual section for each lab will be made available on the labs page of the course canvas site if you do not have paper copies of the lab manual. For each laboratory, we will provide lab data which we are generating by performing the labs. Also, additional lab information like demonstration videos and instructions will be linked in the Labs page. Prelab questions will be sent out each week. You are required to submit your prelab question answers as a pdf, doc, docx, image, or txt (text) file before lab time each week. You should analyze the data creating relevant tables and graphs and also answering all the lab questions. You are required to submit your lab write-ups before 5PM on Friday of each week. During your regularly scheduled lab period your TA will hold a blackboard collaborate question and answer session. By the end of the lab period you are expected to have finished the lab, but have till Friday to submit your write-up.

Labs are mandatory. Labs are managed and graded by your TA. A valid excuse (see **Absences** and **Valid Excuses** below) and the permission of your TAs are required if you have to defer a lab to a make-up slot. A make-up slot is scheduled on every exam week (see the syllabus). Labs can only be made up in the exam week that *immediately* follows the missed lab; for example, if you miss the second lab, it can only be made up during the week of the first midterm exam. *There will be no exceptions to this rule*. Please inform your TA that you need to make up the lab ahead of time so that arrangements can be made. Each missed lab automatically lowers your final course grade by one grade level (A -> AB, AB -> B, etc). Anyone missing more than 2 labs will fail the course. Labs will be graded based on attendance, your participation and your pre-lab assignment.

Homework and quizzes:
Homework problems are assigned on Tuesday each week and are due the following Monday at 5:00pm. Complete the homework online at www.webassign.net. Note that you have free access for two weeks but then must purchase WebAssign access. Do not purchase the textbook without WebAssign access.

Homework grading. First and second attempt on any problem receives 100% credit for a correct answer. Third attempt get 50% credit for a correct answer. 0% credit for attempts beyond the third. If you miss the problem the first time be sure to carefully study the problem to ensure your completely sure of your answer when submitting the second time.

Please direct any questions regarding the homework problem content to your TAs.

You are encouraged to work on homework with other students, but be sure you understand the answers that you provide. Students are advised to submit their HW early to avoid situations (which are not considered a valid excuse) when your computer or your network connection may accidentally be down right before the deadline. In **exceptional** cases, when due to a valid reason (see **Valid Excuses** below) you were not able to complete a HW assignment on time, please notify your TA before the HW deadline. The TA may grant you a short HW extension in such cases.

Quizzes: There will be a weekly quiz available on Monday after 5:00pm which must be completed by Tuesday at 5:00pm. Complete the quiz on the course Canvas page: https://canvas.wisc.edu/courses/215341/quizzes. *The quiz has a one hour time limit starting from the time that you open the quiz and ending exactly one hour later.* The quiz can involve questions taken from material in the lectures, discussions, laboratories and the homework. It is recommended that you complete any exercises that you may have been assigned in discussion and your homework before taking the quiz since some questions might be direct extensions of those problems. You are expected to work independently on the quizzes.

In **exceptional** cases, when due to a valid reason (see **Valid Excuses** below) you were not able to complete a quiz on time, please notify your TA as well as Professors Onellion and Shiu. Quizzes missed with a Valid Excuse will be assigned the average of your other quiz scores at the end of the semester.

Consultation Hours:

Consultation hours will be held as blackboard collaborate sessions with a general session for the entire class. Please check the schedule on the course website. You can attend at any of the listed times for consultation hours. The consultation session link is available in the BBCollaborate area of the course canvas page.

TA consultation hours **(Wednesday hours are only held on exam weeks)**

	Friday	Monday	Wednesday
7:45-8:35am	Joon	Joon	Brad
8:50-9:40am	Ameya	Shu Tian	Anagha
9:55-10:45am	Anh	Shu Tian	
11:00-11:50am	Brad	Susmita	
12:05-12:55pm	Cheng	Rene	Zach
1:20-2:10pm	Sai		Zach
2:25-3:15pm	Susmita	Anh	
3:30-4:20pm		Sai	Rene
4:35-5:25pm	Rene	Anagha	
5:40-6:30pm		Nikita	

Professor office hours.
Office hours will be done as follows:

1. Office hours are scheduled from 3:30- 4:30pm after lectures on Tuesday and Thursday.
2. Before the office hour, you can send email questions with the subject heading that includes "physics 202 question". Questions should be sent to both professors. onellion@wisc.edu, shiu@physics.wisc.edu
3. In some cases, the question will be better answered through phone or Skype. Please include either a phone number or Skype number/identifier that can be used to answer the question just in case that is necessary. Also specify whether you are available during the office hours or at another time.
4. During the time of the office hours, we will be either answering email questions through email or by phone/skype. If we are going to call you by phone/skype, we will send an email to you to expect a call.
5. Questions sent at other times will be answered as usual via email.

Exams
There is two midterms and a final examination

- **Exam I (Wednesday, October 7)**
- **Exam II (Wednesday, November 11)**
- **Final (Saturday, December 12)**

The exams will be given online using on Canvas using the same interface as the weekly quiz. The exam will be timed with the standard 90 minutes (2 hours for the final) period allocated for the exam. You will be able to take the exam any time during the day of the exam, though, like the quiz, once you have started the exam you must finish within the exams time limit. **We do not offer alternative exams on different dates.** The exam will be effectively open book, though since the exam is timed we recommend preparing for the exam in a similar way to the homework. You are required to work independently. Extra time accommodations will be given according to the current list of McBurney approved accommodations. McBurney students should present their McBurney VISA via the exam scheduler web app so that special arrangements can be made for their midterm and final exams.

Exam scheduler web app: https://app.physics.wisc.edu/examsched/202/

Grading: Your grades for the course is calculated as follows:

Midterm 1	**15%**
Midterm 2	**15%**
Final Exam	**25%**
Labs	**10%**
Quizzes	**10%**
Homework	**20%**
Discussion	**5%**

Final grades will be curved. Grades near the class average will result in a letter grade of B. An estimated curve will be given a few weeks after the 2nd midterm exam assuming a final exam score equivalent to the average of your midterm exam grades.

Absences:
There is no way to make up *unexcused* missed labs, quizzes, discussions, exams or other course work. If you need to miss a discussion, lab, or homework for a valid reason (see below), email your excuse to your TA, *BEFORE* the scheduled event to set up an alternate arrangement at the discretion of your TA. If you have an excused absence for a quiz or exam contact both professors and your TA *BEFORE* the scheduled event to inform them.

There will be no make-up exams on dates other than the ones we scheduled. Please take this into consideration when selecting your courses for this Fall semester. McBurney students should present their McBurney VISA via the exam scheduler web app when it is ready, so that special arrangements can be made for their midterm and final exams.

Unexcused absences from any quiz, exam, lab or discussion will be assigned a zero grade. For an *excused* absence to a midterm exam (where an alternate exam on the same day cannot be arranged), we will construct a grade based on your other scores. However, students missing *both* midterms or missing the final exam will have to take the course again as we would not have enough information to determine their grade.

Valid Excuses
The following, if official documents can be provided, are considered as valid excuses for absences:

- University Academic/athletic conflicts (*e.g.,* varsity athletics, band concert)
- Medical emergency or personal crisis (*e.g.*, illness, automobile accident, death of a close relative which makes it impossible to get to the university)
- Legal obligations