University of International Business and Economics
International Summer School

PHY 160 Introductory Physics I

Term: June 13th – July 14th, 2022
Instructor: Prof. Shanshan Chen
Home Institution: Renmin University of China
Email: TBD
Class Hours: Monday through Thursday, 120 minutes each day (2,400 minutes in total)
Discussion session: 2 hours each week
Office Hours: TBD

Total Contact Hours: 64 contact hours (45 minutes each, 48 hours in total)
Location: WEB
Credit: 4 units

Course Description:

Calculus-based introduction to Physics designed for students not in the physical sciences. The material to be covered is basically the first half of a standard College Physics course, Mechanics and thermal dynamics. This is an intensive course, especially given the limited time frame, and students should take this into account.

Course Goals:

The goal is, in addition to having students learn to solve physics problems, to provide students with an overview of how the material taught fits together within a single conceptual framework.

Required Textbook:

Fundamentals of Physics, Volume 1, 10th Edition by David Halliday, Robert Resnick, Jearl Walker
ISBN: 9781118230725

Grading Policy:

The grades will be determined as follows:
30% for homework solutions
30% for the midterm exam
40% for the final exam

Grading Scale:

Assignments and examinations will be graded according to the following grade scale:

A	90-100	**C+**	72-74
A-	85-89	**C**	68-71
B+	82-84	**C-**	64-67
B	78-81	**D**	60-63
B-	75-77	**F**	below 60

Online Learning:

Online learning provides unique opportunities and challenges, because the mode of course delivery won't occur in a traditional classroom environment during a regularly scheduled time. Success in online courses depends on the following four factors:

Self-Motivation. Many students are attracted to online courses because of the freedom and flexibility that distance learning offers. With this freedom, however, comes added responsibility to keep up on assignments and class discussion. Realize that online courses traditionally require MORE homework time to compensate for the lack of in-class contact time. Successful students tend to replicate the schedule of face-to-face classes by setting aside a certain time each day to watch the lecture videos, read through the required readings, to respond to discussion on Blackboard, and work on assignments. You are responsible for understanding the material found in the e-text, and related resources, although your classmates and instructor are more than willing to help you with any concepts you find confusing or difficult.

Establishing your Workflow. It may help your approach to the course to understand that this course is very systematically laid out. This is a condensed, summer session course, so the activities and deadlines happen at a quicker pace than a longer semester, but in general, I have designed the course in a way to help you replicate the structure of face-to-face courses as well as to incentivize learning through steady and consistent work habits. Please use the course schedule to orient yourself throughout the semester.

This course is deliberately designed to prevent putting off assignments until the end of the session because it is not possible to complete the work of a semester in a few days or even a week. The schedule is also not ideal for students who hope to complete all assignments for the week on the day of the deadlines. It is a reasonable expectation that you may find yourself overwhelmed, stressed out, and likely doing poor work if you try to do everything for a week on the date things are due. The deadlines are designed to give you some flexibility during the week, while still asking you to keep yourself on track to complete the session's work. It is designed with your success in mind!

Active Participation. The only way your participation can be felt in this course format is for you to communicate through postings in the Discussion Board on Blackboard. The forums are very much a student-driven activity and the quality of discussion primarily depends upon you! This may be somewhat new for you if you prefer to sit back and listen in traditional classroom situations. There is a minimum of one posting on each Discussion Forum, but I hope you plan on participating even more than that. Credit for forum postings will be evaluated on when you

post and the quantity and quality of your responses. Plan on getting actively involved early on with each discussion, keeping up with the new postings of your classmates each day. You are encouraged to think about the ideas of classmates by offering support or alternative views, or you may choose to start your own thread of new dialogue. Keep your dialogue courteous and civil. Any consistent non-professional dialogue occurring in the forums could result in a warning from the instructor and possible removal from the course roster.

Persistence Through Technical Difficulties. In any online course, there are bound to be technical problems that arise—the platform may be down, your computer may get a virus, you may accidentally log off during a test, etc. Realize that you have a variety of options to work through those problems.

It's a good idea to account for technical difficulties particularly in your timeline for important deadlines—complete things in advance so that you aren't relying on technology to work perfectly! If you can't figure a way out of a certain situation, or have any questions regarding course assignments, please contact me, and we'll work it out. I will do my best to respond to you within 24 hours of any e-mail.

Academic Honesty:

Students are expected to maintain high standards of academic honesty. The work you produce in this class should be the product of your own time in reading, thinking, and writing. Any academic misconduct of any type, especially cheating on an exam, will automatically trigger: (1) expulsion from the course; (2) the issuance of a failing grade for the course, (3) the issuance of a formal report about the student's misconduct to the student's home university, and (4) any other disciplinary or administrative action deemed appropriate by Professor Chen and the leaders of UIBE. Students are allowed to co-operate on, but not copy, homework exercises.

Deadline Policy:

Summer school is very intense and to best ensure your success in this class, students must be proactive in their work. This means that you should not only be disciplined about completing assigned reading and assignments in a timely way, but also that you reach out to me when you have questions.

All work in the class will have a reasonable "window" of time within which to complete it, and because of the limit of a 5-week semester, we don't have a lot of room.

Communication:

Let me know if something is not clear. Let me know if there is a reason you are missing class. Let me know if you need more help—we can schedule some office hours via Zoom. I want you to succeed in learning the material. If something is not working for you, I am not able to do anything about it if I don't know about it.

Please e-mail for an appointment via Zoom if you would like to talk "live." Alternatively, we can

also communicate via e-mail, particularly if you just have a quick question When you e-mail, please be sure to include the class (PHY 160) in your e-mail subject and to include your own name in the body of the e-mail message as well as a clear description of the issue you're asking me about.

Please get in the habit of using the more formal environment of e-mail or zoom! I am usually able to respond to e-mail within 24 hours, however, should 24 hours pass by and you have not received a response from me, please contact me again.

Detailed Description of the Course Requirements:

Homework: (on Blackboard)
This course is designed to build knowledge over time. You can help yourself succeed by keeping on top of the reading and reviewing your notes daily…cramming has proven to be an ineffective way to learn the material!

Discussion:
The topics are designed to help you stay on track by facilitating your interaction with a peer group with whom you can discuss course materials ranging from information and data to "big picture" issues. Depending on the size and constitution of the class, these discussions will either take place electronically or via Zoom.

Exams: (on Blackboard)
There will be a final exam at the end of the semester. It will consist of both the written material we have covered in class.

Missed Exams:
In the event that you must miss an exam, please let me know as much in advance as possible. In the case of illness or emergency, you may be eligible to make-up one quiz or exam. Please see me upon your return to class and be prepared to provide written documentation. No make-ups will be offered for unexcused absences.

Course Schedule:

Day 1, Mon: Chapters 1&2 Measurement and Motion along a straight line

Day 2, Tues: Chapters 2&3 Motion along a straight line and Vectors

Day 3, Wed: Chapters 4 Motion in Two and Three Dimensions

Day 4, Thurs: Chapter 5 Force and Motion I

Day 5, Mon: Chapter 6 Force and Motion II

Day 6, Tues: Chapter 7 Kinetic Energy and Work

Day 7, Wed: Chapter 8 **Potential Energy and Conservation of Energy**

Day 8, Thurs: Review

Day 9, Mon: Mid-term Exam

Day 10, Tues: Chapter 9 **Center of Mass and Linear Momentum**

Day 11, Wed: Chapter 10 **Rotation**

Day 12, Thurs: Chapter 11 **Rolling, Torque, and Angular Momentum**

Day 13, Mon: Chapter 15 **Oscillations**

Day 14, Tues: Chapter 16 **Waves**

Day 15, Wed: Chapter 18 **Temperature, Heat, and the First Law of Thermodynamics**

Day 16, Thurs: Chapter 19 **The Kinetic Theory of Gases**

Day 17, Mon: Chapter 19&20 **Entropy and the Second Law of Thermodynamics**

Day 18, Tues: Chapter 20 **Entropy and the Second Law of Thermodynamics**

Day 19, Wed: Review session

Day 20, Thurs: Final Exam