



**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)

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

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.

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**