



PHYS 021: General Physics II

Term: Summer, 2019

Time: Monday – Friday, 5 Weeks

Class Sessions per Week: 5

Class Session Length (minutes): 150

Total Contact Hours: 60

Credit Hours: 4

Course Description

General Physics II is general introductory physics course sequence based on the use of first year Calculus knowledge. It focuses on electric and magnetic forces and fields, Gauss's Law, DC and AC, Ampere's Law, Faraday's Law, geometric optics, waves, lights, quantum physics, and nuclear physics.

Textbook(s)

Young and Freedman, University Physics Volume 2 and Volume 3, 14th Edition, Pearson/Addison-Wesley. (ISBN-13: 978-0133978001, ISBN-13: 978-0133978025)

Course Requirements

Homework

Every day, there will be homework. Homework is due at the start of each class. Late submission will not be accepted.

Exams and Quizzes

There will be quizzes and one mid-term exam this semester. Quizzes will be assigned at the start of the class. If students miss any quiz, that grade is recorded as zero. If students miss two quizzes, they will fail this course. The final exam will be cumulative, covering all the material taught in class.

Laboratories

Students cannot miss any lab. If you miss a lab, the grade is recorded as a zero. Students will have a whole weekend to process their lab reports. If students don't submit the lab reports before the due date, the grade will also be recorded as a zero.

Grading

Homework	10%
Lab	20%
Quizzes and Mid-term exam	40%



Final Exam	30%
Total	100%

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

Schedule

Week 1

Electric Charge, Forces and Fields

Gauss' Law, Electric Potential, Capacitors and Field Energy

Lab 1: Electirc Field Mapping

DC circuit, EMF and Batteries

Kirchhoff's Rules

Magnetic Field, Force on moving Charges

Week 2

Magnetic forces on currents and magnetic fields of currents

Ampere's Law

Electromagnetic Induction and Faraday's Law

Lab 2: Faraday's Law

Motional EMF and Inductance, Magnetic Field Energy

Mid-term Exam

Week 3

AC circuits, Reactance, Resonance in AC circuits

Electromagnetic Waves

Energy and Momentum in Electromagnetic Waves

Geometric Optics

Lab 3: Geometric Optics

Mirrors and Lenses

Week 4

Diffraction

Photoelectric effect and line spectra

Lab 4: Ligh/ Wave Scattering

Blackbody radiation, Compton scartering, Bohr atom

Particle in a Box

Week 5

Harmonic Oscillator

Properties of Nuclei

Review

Final Exam



Policies

Exam and Attendance

No make-ups for missed exams. If legitimate absence, midterm exam can be excused. Attending all class meetings is required. Students are responsible for missing class by any reason. We will be covering a lot of material quickly so it is detrimental to miss even a day.

Academic Honesty

Xihua University expects all students to do their own work. Cheating is dishonest. The term "cheating" includes but is not limited to:

Use of any unauthorized assistance in taking quizzes, tests, or examinations;

Dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;

The acquisition, without permission, of tests or other academic material belonging to a member of the University faculty or staff.

Any interaction between students in a testing situation may be interpreted as cheating.

Instructors will fail assignments or exams that show evidence of plagiarism or other forms of cheating, and will also report the student's name to the University administration. A student reported to the University for cheating is placed on disciplinary probation; a student reported twice is suspended or expelled.

Special needs

Students with disabilities and special needs should consult with the professor early in the semester. Recording of lectures is permitted.