



Syllabus

Course No.	1900837W	College	Science	Dept.	Applied Physics
Teacher	Fengming Pan				
Time	2022.06.28—2022.07.15				
Course Name	English	General Physics II			
	Chinese	大学物理 II			
Course hours	Total	Theory	Office Hour or Practice	Credits	
	70	60	10	12.0	
Course description ： Describe the nature, academic status, and aims of the course (theory, ability and technique) This is an introductory course on the principles and methods of physics for students who have good preparation in physics and mathematics. This course covers electricity, magnetism, optics and quantum mechanics. Topics include: electrostatics, capacitors, charges in motion, insulators, semiconductors, conductors, superconductors, voltage and current measurements, magnetism, electromagnetic induction, magnetic materials, quantum dots, magnetic resonance phenomenon,etc.					
Requirements for courses; ability and knowledge in advance General Physics I					
Course structure explanation : Make clear the necessary parts, optional parts, distribution of hours. Courses with experiments or practice are expected to explain credit hours needed, content, scheme and functions.					
Unit One Ch.21. 1- 6 Electric Forces and Electric Fields, Coulomb’s Law. Ch.22. 1- 5 Concepts of electric field and flux,Gauss’ Law and its applications Assignment Ch.21 – 28,31,41,44 Ch.21 – 48,66,70,74,78					
Unit Two Ch.23. 1- 6 Electric potential and electric potential energy: Discrete and continuous charge distributions Ch.24. 1- 5 Capacitance, series and parallel combinations, energy stored in a capacitor, dielectric-filled Assignment					

Ch.22-20,41,43,50,62,67,72

Ch.23-19,21,23,29,37,46

Mid-Term Exam

Unit Three

Ch.25. 1- 5 Electric current, Ohm's law, electric,energy and power.

Ch.25. 1- 5 Sources of emf, Kirchhoff's rules and

Ch.26. 1- 3 Magnetic field and its interaction with moving charges and currents.

Assignment

Ch.24-29,30,33,34,77,84

Ch.25-35,46,66,75,79,90,97,103

Unit Four

Ch.27. 1- 5 The Bio-Savart law, interaction between two current carrying wires, the Ampere's law, magnetic field produced by simple current carrying shapes- loops, solenoids and toroids

Ch.28. 1- 5 Faraday's and Lenz's laws of induction, induced emf, self inductance and mutual inductance.

Ch.29 Maxwell's Equation and Electromagnetic Waves

Assignment

Ch.26-27,32,36,51,57,74

Ch.27-16,21,27,37,38,49

Ch.28 -20,26,33,38,40,45

Ch. 29 20,31,32,33,36

Unit Five

Ch. 31 The property of Lights Mirrors and Lenses

Ch. 34 Wave- Particle Duality and Quantum Physics

Ch. 39 Relativity

Ch. 40 Nuclear Physics and Energy

Assignment

Ch.31 31,34, 40, 45, 47

Ch.34 15,25,27,31,35

Ch.34 15,25,27,31,35

Ch. 40 15,20,22,29,31

Final Exam

Teaching methods (Lectures, practice, etc)

Lectures and self-study

Forms of evaluation and requirements					
Structure of the final grade(including presence, class performance,), focus of exam, forms of exam(test, interview, final report, etc)					
Presentation & Class Participation 10% Labs 20% Homework 15% Tests & Midterm-Exams 25% Final Exam 30%					
Students are expected to maintain high standards of academic honesty. Specifically, unless otherwise directed by the professor, students may not consult other students, books, notes, electronic devices or any other source, on examinations. Failure to abide by this may result in a zero on the examination, or even failure in the course.					
Textbook	Name	Publisher	Author	Year	Price
	Physics for Scientists and Engineers		Tipler and Mosca	6th Edition	
References	Name	Publisher	Author	Year	Price
					1
Website					
Course members					
College					