Syllabus

PHYS 106 Physics: Health Science Students (3+1)

1. *Mechanics:*

a) Basic Principles of Mechanics: Units & dimensions, vector analysis, velocity & acceleration, forces, Newton's law of motion, gravity, work, energy and power.

b) Properties of Fluids (liquids): Continuity equation, pressure, flow of ideal liquid, Bernolli's equation, Blood pressure measurements, and simple medical applications.

2. *Basic Electricity and Magnetism*:

Coulomb's law, electric field, electric potential, capacitance, steady electric currents, Ohm's law, Kirchhof's reules.

3. *Optics*:

Nature of light, reflection and refraction of light, mirroes and lenses, human eye, simple optical instruments, simple medical applications.

4. *Modern Physics (Atomic & Nuclear Physics):*

Electromagnetic spectrum, photon, wave properties of matter, atomic structure, Bohr atom and atomic spectra, X-rays, Nuclear radiation, interaction of radiation with matter, radiation units, nuclear hazards, medical applications.

Main Reference:

Kane J. W. & Sternheim M. M., Third Edition, Jhon Wiely & Sons, Inc., 1988, Canada.

Details of the lecture schedule from the text books

Hours(Approx)	Chapters	Sections	Exercises and Problems
3	1	2,4,5,6	16,17,38,43,54,62,77,80,86,90
2	2	1	1-14
4	3	1,2,3,5,6,8,12	47,50,51,55,87,90,91,100,102,103,108,109
2	4	1,2	5,8,13,14,39,41
4	6	1,2,3,4,6,9	1,2,8,10,19,32,36,63,66,70,72,74
3	7	1,2,4	2,14,19,20,22,29,30
3	13	2,3,4,7	7,9,10,11,12,19,32,50,56
3	16	1,2,3,4,8	4,13,14,21,22,58,60,64
2	17	1,2,5,12	1,10,11,13,18,23,24,25,45,46,71,87,88
4	24	1,2,3,4	5,7,11,13,19,22
2	26	1,3	1,3,4,16,17,19
5	30	1,2,9	1,2,4,8,11,26,27,36,43
	31	1,2	14,16,17,23,47

Given exercises and problems are the least that student must try. There shall be two MID-TERM exams. Class activities are also integral parts of final assessment.

Distribution of marks:

Two mid- Term Exams = 20

Class Activities = 5

Laboratory = 25

Final exam = 50

QUESTION; DID YOU STUDY AND SOLVE THE PROBLEMS TO GET A^+ ?