



Code	Subject Title	Cr. Hrs	Semester
PHY-102	Waves, Oscillations and Optics	3	I
Year	Discipline		
1	Physics		

Simple and damped harmonic oscillations, forced oscillations and resonance, mechanical waves, traveling waves, wave equation and power and intensity in wave motion, principle of superposition, Doppler effect of sound waves.

Interference from thin films, Michelson interferometer, Fresnel's biprism and its use, diffraction from multiple slits, diffraction grating, X-ray diffraction and structure of matter, polarization, description of polarization states, rotation of plane of polarization, holography.

Books Recommended:

1. *Physics Vol. I & II (extended)* by Resnick, Halliday and Krane, 4th Edition, John Wiley and Sons Inc, New York, 1992.
2. *Physics Vol. I & II* by Resnick, Halliday and Krane, 5th Edition, John Wiley and Sons Inc, New York, 2002.
3. *Fundamental of Physics* by Halliday Resnick and Krane, 5th Edition, John Wiley and Sons Inc, New York, 1999.
4. *University Physics* 8th Edition by Sears, Zemansky and Young, Addison-Wesley, Reading (MA), USA, 2000.
5. *Physics* by Alonso and Finn: Addison-Wesley, Reading (MA), USA, 1999.