



Phys 2603L	PHYSICS LAB-III	(CR3)
Course	Phys 2001	

Objectives

To train students in performing experiments related to modern physics.

Syllabus

To study the characteristics of Photo emission and determination of Plank's constant using a Photo cell, Determination of e/m of an electron, Determination of ionization potential of mercury, To study the characteristic curves of a G. M. Counter, To determine the absorption co-efficient of β -particle in Aluminum by G. M. Counter, Determination of range of α -particles, Mass absorption coefficient of lead for γ -rays using G.M counter, To determine wavelengths of sodium D lines by Newton's rings, To determine wavelength of light, by Fresnel's biprism, To determine wavelength of light by diffraction grating, Characteristics curve of a solar cell, To determine the excitation potential of mercury, To study magnetic resonance imaging (MRI), diffraction at a slit and Heisenberg uncertainty principle.

(At least six experiments must be performed by individual department of affiliated colleges covering all subject areas of the lab course.)

Recommended Books

1. *Physics laboratory experiments* by Jerry D. Wilson, Cengage Learning (2014)
2. *General Physics Laboratory I Experiments* by Kapila Clara Castoldi, Kendall Hunt, (2015)
3. *Physics Lab Experiments* by Matthew French, Mercury Learning & Information, (2016)
4. *Experiments And Demonstrations In Physics: Bar-ilan Physics Laboratory* by Kraftmakher Yaakov, World Scientific (2014)



Phys 2603L	PHYSICS LAB-IV	(CR3)
Courses	Phys 2002, 2003	

Objectives

To train students in performing experiments related to modern physics.

Syllabus

Characteristics of a semiconductor diode (Compare Si with Ge diode), To set up a single stage amplifier and measure its voltage gain and bandwidth, To set up transistor oscillator circuit and measure its frequency by an oscilloscope, To set up an electronic switching circuit using transistor LDR and demonstrate its use as a NOT gate, Characteristics of a transistor, To study the photoelectric effect, To determine the resolving power of a diffraction grating, To study Zeeman Effect, To determine the Band gap of Ge crystal, To study the Lissajous figures by using C.R.O, Determination of dielectric constant of solids, To study the diode rectifier circuits.

(At least six experiments must be performed by individual department of affiliated colleges covering all subject areas of the lab course.)

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