Curriculum of Medical Physics (1st year) PHYS101 2023-2024

15 hours theory 30 hours practical

1.	**Terminology, Modeling ,Measurement and Forces on and in the Body**		**1Hours**
	a.	**Terminology**	
	b.	**Modeling**	
	c.	**Measurement**	
2.	**Heat and Cold in Medicine**		**3 Hours**
	a.	**Physical Basis of Heat and Temperature**	
	b.	**Thermometry and Temperature Scales**	
	c.	**Thermography-Mapping the Body's Temperature**	
	d.	**Heat Therapy**	
	e.	**Use of Cold in Medicine**	
	f.	**Cryosurgery**	
	g.	**Safety With Cryogenics**	
3.	**Pressure**		**2 Hours**
	a.	**Measurement of Pressure in the Body**	
	b.	**Pressure Inside the Skull**	
	c.	**Eye Pressure**	
	d.	**Pressure in the Digestive System**	
	e.	**Pressure in the Skeleton**	
	f.	**Pressure in the Urinary Bladder**	
	g.	**Pressure effects While Diving**	
	h.	**Hyperbaric Oxygen Therapy (HOT)**	
4.	**Application of Electricity and Magnetism in the Medicine**		**2 Hours**
	a.	**Electrical Shock**	
	b.	**High-Frequency Electricity in Medicine**	
	c.	**Low-Frequency Electricity and Magnetism in Medicine**	
	d.	**Current Research Involving Electricity Applied to the Body**	
5.	**Sound in Medicine**		**3 Hours**
	a.	**General Properties of Sound**	
	b.	**Interaction of sound wave with tissue**	
	c.	**The Stethoscope.**	
	d.	**Ultrasound Pictures of the Body**	
	e.	**Ultrasound to Measure Motion**	
	f.	**Physiological Effects of Ultrasound in Therapy**	
6.	**Light in Medicine**		**4 Hours**
	a.	**Measurement of Light and Its Unit**	
	b.	**Applications of Visible Light in Medicine**	
	c.	**Measurement of Light and Its Unit**	
	d.	**Applications of Ultraviolet and Infrared Light in Medicine**	
	e.	**Reflection and Refraction& Fibre Optics**	
	f	**Lasers in Medicine**	

Practical

1	**Introduction to medical physics lab**
2	**Measurements of pulse**
3	**Manometer**
4	**Manometer**
5	**Spectrometer**
6	**Spectrometer**
7	**spectrophotometer in medicine and biology**
8	**spectrophotometer in medicine and biology**
9	**Pulse oximeter**
10	**Pulse oximeter**
11	**Blood pressure measurements**
12	**Blood pressure measurements**
13	**Problem in Radioactivity**
14	**Problem in Radioactivity**
15	**Tutorials**
	Lab review
	Final lab examination(PHS101)