University of Pretoria Yearbook 2022

Physics 154 (PHY 154)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	8.00
NQF Level	05
Programmes	BSc extended programme - Biological and Agricultural Sciences
Service modules	Faculty of Education
Prerequisites	PHY 143
Contact time	1 practical per week, 4 lectures per week, Foundation Course
Language of tuition	Module is presented in English
Department	Physics
Period of presentation	Semester 1

Module content

The main topic in this module is Electricity, Sound, Optics, and Modern Physics.
Static Electricity: Electric charge and force, electric field, the electric energy, electric potential, conservation of electrical energy.
Flow of charge: Capacitors, application of charge flow to nerves.
Sound: Vibrations, waves in unconfined and confined media, applications to human hearing.
Optics: Reflection, refraction, applications to optometry and ophthalmology.
Atomic physics: Atomic models, x-rays.
Nuclear physics: The stable atomic nucleus, radioactivity, nuclear spin and applications to medical diagnostics.