

# University of Pretoria Yearbook 2020

## Physics 154 (PHY 154)

**Qualification** Undergraduate

**Faculty** [Faculty of Natural and Agricultural Sciences](#)

**Module credits** 8.00

**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.

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