

# University of Pretoria Yearbook 2022

## Physics 144 (PHY 144)

**Qualification** Undergraduate

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

**Module credits** 8.00

**NQF Level** 05

**Programmes** [BSc extended programme - Biological and Agricultural Sciences](#)

[BSc extended programme - Mathematical Sciences](#)

**Service modules** Faculty of Education

**Prerequisites** PHY 133

**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 2

### Module content

The main topics covered in this module are Mechanics and Thermodynamics. Kinematics: Basic types of motion, one-dimensional motion, two- and three dimensional motion, linear momentum and its conservation, multi-object systems and the centre of mass.

Forces: Types of forces, Newton's Laws of Mechanics and applications, friction.

Energy: Work, heat, conservation of mechanical energy.

Thermodynamics: First law of thermodynamics, empirical gas laws, mechanical model of the ideal gas, energy of the ideal gas, basic thermodynamic processes.

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