

University of Pretoria Yearbook 2021

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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