

University of Pretoria Yearbook 2021

First course in physics 124 (PHY 124)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	16.00
NQF Level	05
Programmes	BEd Senior Phase and Further Education and Training Teaching BSc Computer Science BSc Applied Mathematics BSc Chemistry BSc extended programme - Physical Sciences BSc Geology BSc Mathematics BSc Meteorology BSc Physics
Service modules	Faculty of Engineering, Built Environment and Information Technology Faculty of Education
Prerequisites	WTW 114 GS and PHY 114 GS
Contact time	1 discussion class per week, 1 practical per week, 4 lectures per week
Language of tuition	Module is presented in English
Department	Physics
Period of presentation	Semester 2

Module content

Simple harmonic motion and pendulums. Coulomb's law. Electric field: dipoles, Gauss' law. Electric potential. Capacitance. Electric currents: resistance, resistivity, Ohm's law, energy, power, emf, RC-circuits. Magnetic Field: Hall-effect, Bio-Savart. Faraday's and Lenz's laws. Oscillations: LR-circuits. Alternating current: RLC-circuits, power, transformers. Introductory concepts to modern physics. Nuclear physics: Radioactivity.

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