



University of Pretoria Yearbook 2019

First course in physics 124 (PHY 124)

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| Qualification | Undergraduate |
| Faculty | Faculty of Natural and Agricultural Sciences |
| Module credits | 16.00 |
| Programmes | BEd Senior Phase and Further Education and Training Teaching BSc Computer Science BSc Applied Mathematics BSc Chemistry BSc Extended programme - Physical Sciences BSc Geography 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 | 4 lectures per week, 1 practical per week, 1 discussion class 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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