



University of Pretoria Yearbook 2016

Particle and astroparticle physics 310 (PHY 310)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	18.00
Programmes	BSc Physics
Prerequisites	PHY 255 and PHY 263 and PHY 356
Contact time	2 lectures per week, 1 practical per week, 1 discussion class per week
Language of tuition	English
Academic organisation	Physics
Period of presentation	Semester 2

Module content

Relativistic kinematics, fundamentals of elementary particle physics, the four forces of nature and the Standard Model, beyond the Standard Model, early universe cosmology (inflation, baryogenesis), the Cosmic Microwave Background, high-energy astronomy (cosmic rays, gamma rays and neutrinos), gravitational waves, dark matter (evidence, candidates, detection), dark energy and the Standard Cosmological Model.

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