

# University of Pretoria Yearbook 2019

## Nuclear physics 719 (PHY 719)

**Qualification** Postgraduate

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

**Module credits** 10.00

**Prerequisites** Admission only with permission by the Head of the Department of Physics

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Physics

**Period of presentation** Semester 2

### Module content

Quarks, Nucleons, Isobaric Invariance, NN-interaction, Two-nucleon system, Deuteron, Elements of scattering theory, NN-scattering, Few-body nuclear systems, General properties of medium and heavy nuclei, Nuclear models, Radioactivity, Nuclear reactions,  $\alpha$ -,  $\beta$ -, and  $\gamma$ -decays, Nuclear fission, Nuclear fusion, nuclear astrophysics.

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