

UCT Physics OpenContent - PHY2009S

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Course description

PHY2009S is a physics course primarily for students who have not completed PHY1004W, to prepare them for PHY2014F and PHY2015S. VECTOR FIELDS IN PHYSICS: Vector calculus; div, grad, curl; line-, surface- and volume integrals; Gauss' Theorem; Stokes' Theorem; simple applications to fluid dynamics and electromagnetism

STATISTICAL MODELLING OF RADIATION AND MATTER: Mathematical descriptions of solids, liquids and gases; entropy; temperature; the Boltzmann distribution; thermodynamics; statistical models of photons; statistical models in quantum mechanics, wave-particle duality.

Lecture slides

- [Energy](#)
- [Entropy](#)
- [Gas Laws](#)

Weekly problem sets

- [WPS for week 1](#)
- [WPS for week 2](#)
- [WPS for week 3](#)
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- [WPS for week 13](#)

Tutorials

- [Tutorial 1](#)
- [Tutorial 2](#)
- [Tutorial 3](#)

Vpython tutorials

- [VPython1](#)
- [VPython 2](#)
- [VPython 3](#)
- [VPython 4](#)

Experiments

- [Experiment 1](#)
- [Experiment 2](#)
- [Experiment 3](#)