University of Pretoria Yearbook 2020

Boundary layer meteorology 811 (AQM 811)

Qualification	Postgraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	15.00
Programmes	MSc Air Quality Management (Coursework)
Prerequisites	No prerequisites.
Contact time	1 lecture per week
Language of tuition	Module is presented in English
Department	Geography Geoinformatics and Meteorology
Period of presentation	Year

Module content

Introduction to global circulation and South African weather and climate. Mathematical functions and atmospheric balance laws. Stability and mixing heights. The atmospheric boundary layer over urban and rural areas. Turbulence. Earth’s energy budget. Transfer and exchange of energy. Introduction to atmospheric and chemical dispersion modelling. Practical modelling of air pollution: Box models, Gausian puff or plume models, stochastic models, trajectory models.