

University of Pretoria Yearbook 2020

Introduction to the science of measurement 716 (EIS 716)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Prerequisites	No prerequisites.
Contact time	16 contact hours per semester
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
Period of presentation	Semester 1

Module content

Credits: 16 (must be combined with another 16 credit Laboratory in photonics module to form a 32 credit module)

Theory: Introduction to metrology, international equivalence of units of measurement, realisation of the SI units, principles of measurement, total quality management, data analysis and calculation of uncertainty of measurement. Practical: calibration of luminance and illuminance meters, calibration of an oscillator for frequency, calibration of a thermocouple and digital readout by comparison with an industrial platinum resistance thermometer, characterisation and composition of thin films, national measurement standards of length/mass/electrical current.

The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.