

University of Pretoria Yearbook 2016

Remote sensing 220 (GMA 220)

Qualification Undergraduate

Faculty Faculty of Natural and Agricultural Sciences

Module credits 16.00

Programmes BSc Information Technology Information and Knowledge Systems

BSc Chemistry

BSc Environmental and Engineering Geology

BSc Environmental Sciences

BSc Geography

BSc Geoinformatics

BSc Geology

BSc Meteorology

BSc Physics

Service modules Faculty of Engineering, Built Environment and Information Technology

Prerequisites No prerequisites.

Contact time 1 practical per week, 2 lectures per week

Language of tuition English

Academic organisation Geography, Geoinf + Meteor

Period of presentation Semester 1

Module content

This module will provide a thorough introduction to the basic scientific principles involved in remote sensing, and some of the applications to studies of the Earth's surface. This includes examining the basic physics of electromagnetic radiation and the complex interactions of radiation with the surface and atmosphere (i.e. spectral signatures). In addition, basic concepts of photogrammetry will be discussed. The theoretical background laid out in the first half of the module will provide the tools for examining various remote sensing applications using data obtained in different parts of the electromagnetic spectrum. The applications will include uses of satellite remote sensing data for mapping and monitoring vegetation, soils and minerals, snow and ice, water resources and quality, and urban landscapes. The laboratory section will include hands-on experience with various satellite image data sets.

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