

School and Subject Group		School of Engineering and Applied Science, Electronic Engineering		
Module Code		EE7004		
Module Title		Remote Sensing of the natural environment		
Module Type		Taught		
Date of introduction of new module		2010		
Level		MSc	Credit Value	10
Programme(s) in which module is available		MSc in Sensing		
Involvement of Other Schools		None		
Resource Split				
Name of Module Co-ordinator		Dr. John Elgy		
Name of Module Advisor		Dr. Peter Hedges		
Related Modules	Pre-requisites	None		
	Co-requisites	None		
	Prohibited Combinations	None		
Minimum and Maximum Intake Sizes		None – None		
<p>Aims of the Module</p> <p>The aim is to introduce students to remote sensing platforms and sensors and the processing and classification and interpretation of remote sensing data.</p> <p>Summary of Content</p> <p><b>Lectures</b></p> <ul style="list-style-type: none"> <li>• Purpose and application (1 hour)</li> <li>• Introduction to the electromagnetic spectrum relevant to remote sensing and the response of different land cover types to the EM spectrum (1 hour)</li> <li>• Remote sensing platforms and sensors (2 hours)</li> <li>• Data from remote sensing including spectral and spatial resolution (2 hours)</li> <li>• Spatial and spectral rectification of remotely sensed data; including special problems with radar data (3 hours)</li> <li>• Image processing of remotely sensed data (4 hours)</li> <li>• Classification of remotely sensed data (4 hours)</li> <li>• Measures of accuracy of classified data (2 hours)</li> </ul> <p><b>Practical (16 hours in total)</b></p> <ul style="list-style-type: none"> <li>• Introduction to Idrisi</li> <li>• Co registration of a remote sensed image and a topographical map</li> <li>• Interpretation of a remote sensed image</li> <li>• Classification of a remote sensed image</li> <li>• Accuracy of classification</li> </ul>				
Summary of Methods and Frequency of Teaching		<p><b>Lectures</b> 20 hours. Lectures</p> <p><b>Laboratory</b> 16 hours. Practical</p>		
Summary of Methods of Assessment and Feedback including Formative Feedback				
<i>Assessment Type</i>	<i>Status</i>	<i>%</i>	<i>Requirements</i>	<i>Due</i>
Written Report	Compulsory	40.0	Practical Work and Report	-
Formal Examination	Compulsory	60.0	2hr unseen examination paper Marks released via local online grades page prior to examination board.	-

Module Outcomes - what the student should gain from successful completion of the module:		Learning and Teaching and Assessment Strategies to enable outcomes to be achieved and demonstrated	
		Learning and Teaching Methods	Assessment Methods
A. Knowledge and Understanding		Laboratory, Lectures	Formal Examination, Written Report
remote satellite sensing platforms and sensors and the processing and classification and interpretation of remote sensing data.			
B. Intellectual Skills		Laboratory	Written Report
convey complex ideas in a structured scholarly manner and to perform independent work in problem solving			
C. Professional Skills			
D. Transferable Skills			Written Report
communication skills			
Please provide either or both of:			
(i) Introductory Learning Resources	1. Blackboard 2. Idrisi GIS software 3. OS digital Data		
(ii) Core Texts	TBA		
Reading Lists	Attached		
Specification completed by:	Dr. John Elgy		
Date	07-Nov-2009		
Date module approved by Teaching Committee(s)			
Date module approved by School Board(s)			