NOVA Information Management School

NOVA IMS

Course	Remote Sensing
Coordinator:	Joel Dinis da Silva
ECTS	6
Objectives:	On successful completion of the course students are expected to be able to (i.e. learning outcomes): 1. Describe the principles of remote sensing 2. Develop in an autonomous way a project to produce information based on satellite image classification 3. Describe and evaluate the social economic benefits of remote sensing
Curricular Unit Contents:	1. Introduction to remote sensing and to the course 2. Remote sensing principles 3. Remote sensing and the internet 4. Characteristics of Earth observation satellites and sensors 5. Exploratory analysis 6. Introduction to Image information extraction 7. Socioeconomic benefits of remote sensing 8. Practical exercises on satellite image processing 9. Real world problem solving based on satellite image processing
Teaching methods:	The course has lectures and laboratory sessions. In the lectures, the instructor uses slides to illustrate the theory. The laboratory sessions consists on the use of a image processing software for deriving a thematic map based on spectral and/or temporal pattern analysis. The course also includes seminars to discuss the socioeconomic benefits of remote sensing. The professor promotes an active and collaborative learning based on real world problem solving

Grading method:	The professor in one of the first classes will discuss with the student the evaluation method to be applied in this course. As a starting point for the discussion it is proposed: • Test (individual) – 30%. • Project presentation and report - 40%. The goal is the production of a land cover map using a satellite image within a image processing software. A project proposal has to be discussed with the professor. • Participation in classes – 30%. Besides participation in classes thus evaluation component includes an individual presentation on socio-economic benefits of remote sensing within a specific theme selected by the student from a list provided by the Professor.
Bibliography:	• Caetano, M., 2012. Teoria de Deteção Remota, [e-book]. Instituto Superior de Estatística e Gestão da Informação, Universidade Nova de Lisboa. • Caetano, M., 2012. Prática de Deteção Remota, [e-book]. Instituto Superior de Estatística e Gestão da Informação, Universidade Nova de Lisboa. • Jensen, John R., 2000, Remote sensing of the environment: an earth resource perspective. New Jersey: Prentice Hall. • CCRS, Canadian Centre for Remote Sensing, 2007. Fundamentals of Remote Sensing , [Online]. Disponível em http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca.earth-sciences/files/pdf/resource/tutor/fundam/pdf/fundamentals_e.pdf. Access date: Feb 13, 2013