

# Optional Module IDRISI: GIS and Mountain Environments



Course code	IDRISI E MOUNTAIN
Dates	2 times per year
Duration	2 months
Accreditation	Elective Subjects UNIGIS MSc, UNIGIS Professional
Registration deadline	2 weeks before course starts
Credits	3 ECTS
Module Language	English

## Course Description and Course Objectives

This module explores the unique considerations that mountain characteristics pose to the GIS user who works within a mountain environment. The study cases focus on diverse mountain conditions while a wide range of GIS techniques and modeling tools are used in several scenarios. The course objective is not to teach IDRISI software per se but to demonstrate some of the methods used to implement IDRISI software applications related to mountain environments.

## Course Outline

- Digital Terrain Modeling
- Land use change and topography
- Accessing health care
- Mountains and regional climate
- Mitigating topographic effects in satellite imagery
- Ecosystems and topography

## Methods

Modeling mountain characteristics in raster and vector and their accuracy - surface analysis for detection of changes in the land use – isotropic and anisotropic cost distance analysis for modeling the access to health care – image restoration and data base query techniques for the definition of the relationship between mountains and regional climate – spectral band ratioing, image partitioning and modeling illumination effects with a DEM are methods used for the mitigation of topographic effects in satellite images.



Module meets  
[www.euromastergi.org](http://www.euromastergi.org)  
requirements

Elective Modules  
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# Optional Module IDRISI: GIS and Mountain Environments



**Instruction:**  
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Born in Athens (Greece) Anna Karnassioti holds a University Degree in Geology (School of Geology - Faculty of Sciences of the Aristotle University of Thessaloniki, Greece). Since 2007 works for the UNIGIS International team of the University of Salzburg Centre for Geoinformatics and part of her tasks are the provide feedback to a student based on availability of correct answers. These should be organization and maintenance of the LMS (Learning Management System) content. Staff member of the IDRISI Resource Centre SALZBURG (IRC).

## Methods

The module is delivered in form of an instructed self-study that is based on explorative learning process. Theoretical concepts are complemented with practice oriented examples and demonstrated with help of multimedia elements. A discussion forum is used for communication among students and the instructor. Upon completion of the module students are requested to evaluate the module, which is a part of our quality assurance policy and practice.

## Software Requirements

IDRISI software from Clarklabs

## Prerequisites

Good command of English, be acquainted with the IDRISI system environment and its basic applications.

## Assessment and Grading

Instructor assessment is the part of a course that reflects student's achievements in this module and is conducted through assessing module assignments. It counts towards the academic qualification.



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