

COURSE DESCRIPTION

1. GENERAL

SCHOOL	ENVIRONMENT, GEOGRAPHY AND APPLIED ECONOMICS		
DEPARTMENT	GEOGRAPHY		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	ΓΕ1310	SEMESTER	7 th
COURSE TITLE	GEOMORPHOLOGICAL MAPPING		
STRUCTURE OF TEACHING ACTIVITIES		TEACHING HOURS PER WEEK	NUMBER OF CREDITS ALLOCATED (ECTS)
Lectures and Laboratory Classes		3	5
TYPE OF COURSE	Optional		
PREREQUISITES	-		
LANGUAGE OF INSTRUCTION	GREEK		
COURSE OFFERED TO ERASMUS STUDENTS	YES (in English if required)		
(URL)	https://www.geo.hua.gr/en/module/geomorphological-mapping/		

2. EXPECTED LEARNING OUTCOMES

Learning outcomes

Describe the objectives of the course as well as the expected learning outcomes

The purpose of the course is to apply geomorphological methods and techniques to solve and address problems in applied research and studies within the geosciences.

Through this course, the trainee acquires skills in geomorphological mapping, sediment sampling, and analysis, enabling them to approach geomorphological problems and select the methods and techniques that will allow them to study the evolution of relief and understand natural processes.

The course aims to:

- Search, analyze, and synthesize data and information using the necessary technologies,
- Foster autonomous work,
- Work in an interdisciplinary environment,
- Promote respect for the natural environment,
- Encourage free, creative, and inductive thinking.

3. COURSE CONTENTS

Methodology of geomorphological mapping, use of aerial photographs in geomorphology, geomorphology and technical projects (road construction, dam site selection, port works). The contribution of geomorphology to environmental studies (sediment load, sediment transport, slope erosion, wetlands, deltas, restoration of mines and quarries). Study of depositional and post-depositional processes in Quaternary sediments, selection of analysis methods. Reconstruction of paleoenvironments and creation of paleogeographic maps. Geomorphological mapping: symbols and scales. Basic mapping instruments: GPS, palmtop devices, aerial photographs, remote sensing, cartographic data. Map reading. As part of the course, a field trip is conducted to create a geomorphological map and present the geomorphological evolution of the study area.

4. TEACHING AND ASSESSMENT METHODS

TYPE OF LECTURES	<ul style="list-style-type: none">• In class lectures• Laboratory Lectures and Practice• Teaching in the field (Field trip)	
ICT USE	ICT use, Internet use and eclass	
TEACHING STRUCTURE	Activity	Hours per semester
	Lectures	12
	Laboratory	24
	Field work	15
	Weekly assignments	30
	Studying – personal work	45
	TOTAL	127
ASSESSMENT METHODS	<p>Assessment Language: Greek</p> <p>Assessment Methods</p> <p>The final rate of the course is computed by two parts as follows:</p> <p>The basic assessment type of the course is the evaluation of the written project at the end of the semester providing the 100 % of the final grade.</p> <p>The evaluation criteria are announced at the beginning of the semester.</p>	

5. RECOMMENDED READING

1. Smith, M. J. (2006). Geomorphological Mapping: a professional handbook of techniques and applications. Academic Press.
2. Goudie, A. S., & Entwistle, D. C. (2004). Geomorphological mapping: methods and applications. Elsevier.

3. Dent, D., & Young, A. (1981). The measurement of catchment area by remote sensing techniques. *International Journal of Remote Sensing*, 2(3), 219-231.
4. Woodget, J., Carbonneau, P. E., & Visser, F. (2015). Remote sensing and geomorphological mapping: A review. *Geomorphology*, 248, 184-208.
5. Harmon, R. S. (1992). The application of geographical information systems (GIS) in geomorphology. *Progress in Physical Geography*, 16(3), 326-341.
6. Howarth, P. J., Wadham, J. L., et al. (2013). Glacial geomorphological mapping: A review of approaches and frameworks. *Earth-Science Reviews*, 125, 59-84.
7. Moore, J. M., et al. (2019). Mapping geomorphic diversity and stratigraphic complexity in the Martian northern plains with Mars Reconnaissance Orbiter Context Camera images. *Geomorphology*, 332, 111-123.
8. Gutiérrez, J., & Poljak, B. (2010). Karst geomorphology: Mapping, assessment, and conservation. *Earth-Science Reviews*, 102(1-2), 1-18.