COURSE DISCRIPTION

1. GENERAL

SCHOOL	ENVIRONMENT, GEOGRAPHY AND APPLIED ECONOMICS		
DEPARTMENT	GEOGRAPHY		
LEVEL OF COURSE	Undergraduate		
COURSE CODE	ΓΕ1300	**SEMESTER**	6th
COURSE TITLE	COASTAL GEOMORPHOLOGY – COASTAL MANAGEMENT		

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://eclass.hua.gr/courses/GEO143/

2. EXPECTED LEARNING OUTCOMES

Learning outcomes

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

The course "Coastal Geomorphology – Coastal Management" is an introduction to basic concepts concerning the coastal zone, such as the processes that affect the morphology and shape of the shore as well as the coastal landforms. The main aim is to understand the concept of the coastal zone, the processes that act along the shoreline and the coastal landforms, which are the main result of these processes.

In this course the student:

- understands the term coastal zone (the interface between the land and water),
- develops skills related to various methodologies of the geomorphological mapping of coastal environments,
- develops skills related to grain size analysis techniques,
- becomes familiar with the concept of Integrated Coastal Zone Management
- understands processes that threatens coastal areas and develops skills to assess the vulnerability of coastal areas to these hazards.

3. COURSE CONTENTS

Classroom Lectures:
1. Basic concepts of coastal environments.
2. Coastal processes, waves, wave reflection, wave refraction, wave divergence and wave diffraction, coastal currents (longshore currents and rip currents), littoral drift, tides.
3. Sea-level, sea-level fluctuations during the periods of Pleistocene and Holocene, eustatic and local causes of sea-level changes, sea-level indicators.
4. Coastal landforms of rocky coasts (cliffs, marine notches, shore platforms).
5. Coastal landforms of coastal environments with wave activity being the predominant process (beaches, beachrocks, barrier depositional landforms).
6. Coastal landforms of environments dominated by riverine sediment supply sedimentation (river deltas and fan deltas).
7. Coastal landforms of environments dominated by tides.
8. Aeolian coastal landforms (coastal sand dunes, beach ridges).
9. Coral reefs.
10. Coastal erosion and protection measures.
11. Integrated Coastal Zone Management (ICZM).

Laboratory Class:
1. Description and understanding of wave characteristics in coastal areas of different morphology.
2. Representation of palaeo-coastlines of the island of the Aegean Sea during the last glacial maximum.
3. Geomorphological mapping of deltaic environments using aerial photographs.
4. Sampling of coastal sediment samples and grain size analysis.

4. TEACHING AND ASSESSMENT METHODS

<table>
<tr><td>TYPE OF LECTURES</td><td>

In class lectures
Laboratory Lectures and Practice
Teaching in the field (Field trip)

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<tr><td>ICT USE</td><td>ICT use, Internet use and eclass</td></tr>
<tr><td>TEACHING STRUCTURE</td><td>
<table>
<tr><th>Activity</th><th>Hours per semester</th></tr>
<tr><td>Lectures</td><td>24</td></tr>
<tr><td>Laboratory</td><td>12</td></tr>
<tr><td>Field work</td><td>8</td></tr>
<tr><td>Weekly assignments</td><td>33</td></tr>
<tr><td>Studying – personal work</td><td>50</td></tr>
<tr><td>TOTAL</td><td>127</td></tr>
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<tr><td>ASSESSMENT METHODS</td><td>Assessment Language: Greek

Assessment Methods
The final rate of the course is computed by two parts as follows:
The basic assessment type of the course is the written examination at the end of the semester (3 hours) providing the 70% of the final grade.
Evaluation of the weekly submitted laboratory exercises (30%).

The evaluation criteria are announced at the beginning</td></tr>
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	of the semester.

5. RECOMMENDED READING

Karymbalis, E., Papadopoulos, A., Chalkias, C. (2014). The geography of coastal and insular areas. Stamoulis Publications, Athens: 338 p. (in Greek)

Karymbalis E. (2010). Coastal Geomorphology. ION publications, Athens: 242 p. (in Greek)

Karymbalis, E., Gaki-Papanastassiou, K., Tsanakas, K., Ferentinou, M. (2016). Geomorphology of the Pinios River delta, Greece. Journal of maps, 12: 12-21.

Maroukian, H., Gaki-Papanastassiou, K., Karymbalis, E., Vouvalidis, K., Pavlopoulos, K., Papanastassiou D, Albanakis, K. (2008). Morphotectonic control on drainage network evolution in the Perachora peninsula, Greece. Geomorphology, 102 (1): 81-92.

Maroukian, H., Karymbalis, E. (2004). Geomorphic evolution of the fan delta of the Evinos river in western Greece and human impacts during the last 150 years. Zeitschrift. für Geomorphologie. 48/2: 201-217.

Karymbalis, E., Mavromatidi, A. (2016). Implications of the Anticipated Sea-Level Rise for the Coastal Zone of Greece: A Review. In: Advances in Environmental Research. Volume 48" J. A. Daniels (ed.) Nova Science Publishers: 1-26.

Haslett, S. (2000). *Coastal Systems*. Introductions to environment series, Routledge, London: 218 p.

Huggett, R.J. (2007). *Fundamentals of Geomorphology*. Routledge - Taylor & Francis, New York, 472 p.