

## COURSE DESCRIPTION

### 1. GENERAL

<b>SCHOOL</b>	ENVIRONMENT, GEOGRAPHY AND APPLIED ECONOMICS		
<b>DEPARTMENT</b>	GEOGRAPHY		
<b>LEVEL OF COURSE</b>	Postgraduate		
<b>COURSE CODE</b>		<b>SEMESTER</b>	2 <sup>nd</sup>
<b>COURSE TITLE</b>	ADVANCED TOPICS OF APPLIED GEOINFORMATION FOR THE ENVIRONMENT		
<b>STRUCTURE OF TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>NUMBER OF CREDITS ALLOCATED (ECTS)</b>
Lectures and laboratory Exercises		2	7.5
<b>TYPE OF COURSE</b>	Optional		
<b>PREREQUISITES</b>	-		
<b>LANGUAGE OF INSTRUCTION</b>	GREEK		
<b>COURSE OFFERED TO ERASMUS STUDENTS</b>	YES, IN ENGLISH (if required)		
<b>(URL)</b>			

### 2. EXPECTED LEARNING OUTCOMES

<b>Learning Outcomes</b>
The main aim of the course is to help graduate students acquire the required skills for using all the spectrum of geoinformation technologies and demonstrate their use in practice in selected environmental applications.

### 3. COURSE CONTENTS

Some of the key topics covered in the course include: geoinformation in atmospheric correction of geospatial data, advances methods for mapping the environment and their changes over time and space, programming skills in geospatial data analysis, synergistic use of geospatial data and simulation models, sensitivity analysis in geoinformation (principles, methods & tools), advanced topics of hyperspectral remote sensing, LiDAR use in practice (collection, processing & applications), geospatial operational products.
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#### 4. TEACHING AND ASSESSMENT METHODS

<b>TYPE OF LECTURES</b>	<ul style="list-style-type: none"> <li>- In class lectures</li> <li>- Practical training in ICT laboratory</li> </ul>	
<b>ICT USE</b>	ICT use, Internet use and e-class Use of specialized software (open source & commercial) in geospatial data handling	
<b>TEACHING STRUCTURE</b>	<b>Activity</b>	<b>Hours per semester</b>
	Lectures	26
	Laboratory practice	55
	Assignment	40
	Individual study	64
	<b>TOTAL</b>	<b>185</b>
<b>ASSESSMENT METHODS</b>	Assessment Language: Greek  Assessment: <ul style="list-style-type: none"> <li>• Written final exam: (70%)</li> <li>• Submission of group assignment and presentation: (30%)</li> </ul> Assessment criteria are announced at the start of the semester.	

#### 5. RECOMMENDED READING

ΑΡΧΕΣ ΚΑΙ ΕΦΑΡΜΟΓΕΣ ΔΟΥΡΥΦΟΡΙΚΗΣ ΤΗΛΕΠΙΣΚΟΠΗΣΗΣ, Κ. ΚΑΡΤΑΛΗΣ & Χ. ΦΕΙΔΑΣ, ΕΚΔΟΣΕΙΣ ΤΖΙΟΛΑ, 2012  
 ΕΠΙΣΤΗΜΗ ΓΕΩΓΡΑΦΙΚΗΣ ΠΛΗΡΟΦΟΡΙΑΣ-ΟΛΟΚΛΗΡΩΜΕΝΗ ΠΡΟΣΕΓΓΙΣΗ ΚΑΙ ΕΙΔΙΚΑ ΘΕΜΑΤΑ, ΜΑΡΙΝΟΣ ΚΑΒΟΥΡΑΣ, ΚΑΛΛΙΠΟΣ, 2016

Further Reading:

Petropoulos, G.P. & P.K. Srivastava (2020): *GPS and GNSS Technology in Geosciences*. Elsevier, ISBN: 9780128186176 [in print, available from 12/2020]

Petropoulos, G.P. & T. Islam (2017): *Remote Sensing of Hydrometeorological Hazards*, ISBN: 978-1-4987-7758-2, Taylor& Francis, ISBN: 978-01-4987-7758-2.

Petropoulos G.P. (2013): *Remote Sensing of Energy Fluxes and Soil Moisture Content*, 506 pp, Taylor and Francis. ISBN: 978-1-4665-0578-0