

COURSE OUTLINE

(1) General

School:	Social Sciences		
Academic Unit:	Geography		
Level of studies	Undergraduate		
Course Code:	GEO 443	Semester:	F
Course Title:	Application of Remote Sensing		
Independent Teaching Activities	Weekly Teaching Hours	Credits	
Lecture		2	
Laboratory practice		2	
		Course total	5
Course Type:	Required Elective		
Prerequisite Courses:	None		
Language of Instruction and Examinations	Greek		
Is the course offered to Erasmus students:	No		
Course Website (Url):	https://geography.aegean.gr/pps/index_en.php?content=0&lesson=443		

(2) Learning Outcomes

Learning Outcomes

Students will be able to:

- describe the basic remote sensing concepts and applications
- apply remote sensing methods to land, atmosphere and marine applications
- combine various remote sensing data sources and methods
- use ArcGIS, ERDAS and MATLAB s/w
- decide which are the appropriate data sources/sensors and methods for their study/research

General Competences

1. Search for, analysis and synthesis of data and information, with the use of the necessary technology
2. Decision-making
3. Working independently
4. Working in an interdisciplinary environment
5. Production of new research ideas
6. Project planning and management
7. Production of free, creative and inductive thinking

(3) Syllabus

Indicative topics:

- Remote Sensing data sources
- Hyperspectral data, spatial filtering
- Photogrammetry - UAV
- Soil moisture
- Wildfire applications
- Urban application
- Agricultural applications
- Land cover change detection
- Object recognition
- Meteorological applications
- Marine applications, oil spills,, temperature, primary production

(4) Teaching and Learning Methods - Evaluation

Delivery:	Attendance and active participation	
Use of Information and Communication Technology:	ArcGIS, ERDAS, MATLAB, Eclass. Students can use other s/w as well i.e. open source	
Teaching Methods:	Activity	Semester workload
Lecture		26
Laboratory practice		26
Project		39
Project		39
Performance evaluation/Exams		3

Course total<

133

Student Performance Evaluation

Personal project 100%. Includes: α) Mid-term presentation of the topic including, literature review, methodology, expected results. β) Final presentation.

(5) Attached Bibliography

- Αρχές και Εφαρμογές Δορυφορικής Τηλεπισκόπησης, Κάρταλης Κων., Φείδας Χαρ.
- Τηλεπισκόπηση και ψηφιακή ανάλυση εικόνας, Μερτίκας Στέλιος Π.
- ΑΠΟΘΕΤΗΡΙΟ ΚΑΛΛΙΠΟΣ
(<https://repository.kallipos.gr/simple-search?query=%CF%84%CE%B7%CE%BB%CE%B5%CF%80%CE%B9%CF%83%CE%BA%CF%8C%CF%80%CE%B7%CF%83%CE%B7>)
- International Scientific Journals i.e.:
 - Remote Sensing of Environment
 - IEEE Transactions on Geoscience and Remote Sensing
 - Applied Earth Observation and Geoinformation
 - IEEE Applied Earth Observations and Remote Sensing
 - Remote Sensing
 - Photogrammetric Engineering and Remote Sensing
 - IEEE Geoscience and Remote Sensing Letters
 - International Journal of Remote Sensing
 - Remote Sensing Letters
 - Canadian Journal of Remote Sensing
 - GIScience & Remote Sensing
 - The Photogrammetric Record
 - Journal of Applied Remote Sensing
 - Journal of the Indian Society of Remote Sensing