

BACHELOR 'S PROGRAMME
2ND YEAR OF STUDY, 1ST SEMESTER

COURSE TITLE	REMOTE SENSING AND PHOTOINTERPRETATION
COURSE CODE	JHM2304
COURSE TYPE	full attendance/ tutorial
COURSE LEVEL	1 st cycle (bachelor's degree)
YEAR OF STUDY, SEMESTER	2 nd year of study, 1 st semester
NUMBER OF ECTS CREDITS	4
NUMBER OF HOURS PER WEEK	4 (2 lecture hours + 2 seminar hours)
NAME OF LECTURE HOLDER	Lecturer Nicolae Aurelian ROMAN
NAME OF SEMINAR HOLDER	Lecturer Nicolae Aurelian ROMAN
PREREQUISITES	Advanced level of English
A	GENERAL AND COURSE-SPECIFIC COMPETENCES
	<p>General competences:</p> <p>→ Acquiring the adequate professional and transversal competencies, according to the specific requirements of the subject and the qualifications listed in the National Index of Higher Education Qualifications (RNCIS) for Hidrology-Meteorology</p> <p>Course-specific competences:</p> <p>→ Describes notions, laws, processes and physical phenomena that underlie the obtaining of images in remote sensing and aerial photography with applications in geography</p> <p>→ Use complex programs for remote data acquisition and processing</p> <p>→ Calculate indices for the description of geographical realities starting from data specific to remote sensing</p>
B	LEARNING OUTCOMES
	<p>→ Analyze complex satellite or aerial images</p> <p>→ Explain geographical realities based on the data specific to the field</p> <p>→ Prepare complex reports based on satellite or aerial images</p>
C	LECTURE CONTENT
	<p>General principles. History of remote sensing</p> <p>The characteristics of artificial satellites.</p> <p>Colorimetric spaces</p> <p>Spatio-temporal perception of objects.</p> <p>Sources of satellite and aerial photogrammetric images</p> <p>Image preprocessing.</p> <p>Interpretation of images</p> <p>Spatial segmentation of images</p> <p>Radiometric segmentation of images</p> <p>Analysis of the spatio-temporal dynamics of the territory with the help of remote sensing images</p> <p>Obtaining the numerical model of the terrain starting from images.</p> <p>Integration of satellite images in GIS.</p> <p>Means of disseminating the results of remote sensing projects</p>
D	RECOMMENDED READING FOR LECTURES
	<ol style="list-style-type: none"> 1. Donisă V., Donisă I. (1998) - Dicționar explicativ de teledetecție și sisteme informaționale geografice, Ed. Junimea, Iași. 2. Lillesand Th.M. et al. (2004) - Remote Sensing and Image Interpretation, , Ed. John Wiley & Sons 3. P.A.Longley et al. (2005) – GIS and Science, Ed. John Wiley and Sons. 4. Skrdla M. (1992) - A Guide to Map and Image Processing, Microlmages Press, Nebraska.
E	SEMINAR CONTENT
	<p>Allocation of individual projects. Acquisition and construction of aerial image databases</p> <p>Fundamental problems and exercises of photogrammetry</p> <p>Global positioning systems. Using GPS.</p> <p>Acquisition, construction and distribution of satellite image databases</p> <p>Preprocessing of satellite images</p> <p>Image processing: geometric transformations</p> <p>Image processing: spatial and radiometric filtering</p> <p>Classification of images: unsupervised classifications</p> <p>Classification of images: hybrid and supervised classifications</p> <p>Classification of images: hybrid and supervised classifications</p>

	Evaluation of individual projects	
F	RECOMMENDED READING FOR SEMINARS	
G	EDUCATION STYLE	
	LEARNING AND TEACHING METHODS	Lecture, didactic explanation, problematization, heuristic conversation, interactive demonstration, modelling, mapping, case study
	ASSESSMENT METHODS	Performance evaluation + Seminar Grades
	LANGUAGE OF INSTRUCTION	English