BACHELOR 'S PROGRAMME
3RD YEAR OF STUDY, 2nd SEMESTER

COURSE TITLE	INTEGRATED MONITORING OF THE ENVIRONMENT
COURSE CODE	JM3609
COURSE TYPE	full attendance/ tutorial
COURSE LEVEL	1st cycle (bachelor's degree)
YEAR OF STUDY, SEMESTER	3rd year of study, 2nd semester
NUMBER OF ECTS CREDITS	6
NUMBER OF HOURS PER WEEK	4 (2 lecture hours + 2 seminar hours)
NAME OF LECTURE HOLDER	Associate Professor Iuliana Gabriela BREABAN
NAME OF SEMINAR HOLDER	Associate Professor Iuliana Gabriela BREABAN
PREREQUISITES	Advanced level of English

A – GENERAL AND COURSE-SPECIFIC COMPETENCES

General competences:

→ 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 Geography of the Environment

Course-specific competences:

→ Define, describe and classify air and water quality monitoring systems

→ Use analysis techniques to capture environmental problems

B – LEARNING OUTCOMES

→ Calculate pollution indices to capture the degree of pollution of an area

→ Analyze the maps and graphs of the evolution of the degradation of the quality of the environmental components

→ Explains the mechanisms of manifestation of phenomena with negative impact on environmental components

→ Make maps, graphis to highlight environmental issues

C – LECTURE CONTENT

The concept of monitoring. Introductory notions
Environmental monitoring systems
Parameters followed in integrated monitoring.
Air management and monitoring. Pollutants and sources of air pollution. European directives on air protection
Dispersion of pollutants in the atmosphere. Air quality monitoring.
Indoor air quality indices; Real-time monitoring of pollution levels inside and outside residential buildings
The relationship between climate and air quality
Fundamental concepts of integrated water quality management
Standardization, organization and optimization of monitoring and automonitoring systems
Automatic monitoring and alarm stations
Warning of accidental pollution
Physical, chemical and biological methods of water analysis
Methods of data analysis and interpretation
Integration of water monitoring activities in the integrated environmental monitoring system in Romania.

D – RECOMMENDED READING FOR LECTURES

1. Cretescu Igor , Soreanu Gabriela, (2013), *Tehnologii de achizitie, monitorizare si diagnoza a calitatii factorilor de mediu*, Ed. Ecozone, Iasi
2. Ciulache, S.,(2004), *Influenţa condiţiilor meteorologice şi climatice asupra poluării aerului*, Com Geogr., V, Editura Universităţii Bucureşti;
3. Hanna S.R.,1982*, Review of atmospheric diffusion models for regulation application*", WMO, No.581, Technical Note No.177,
4. Terceiro Patricia, Ceclan Rodica, Popa Ionel (2009) - *Environmental monitoring of water sources*, Ed. Electra, Bucureşti146 p.

E – SEMINAR CONTENT

Presentation of the means of investigation of the terrestrial atmosphere (SNEGICA)
Identification of environmental information sources (SNMCA) and (SNIEPA). Types of data, information and knowledge used in assessment
Methods of data analysis and interpretation
Evaluation and management of ambient air quality. Collection of necessary data

	Field activity meant to determine the usual air pollutants Generating a cartographic support with the identification of the main and secondary critical areas; Methods of water sampling Methods of physical, chemical and biological analysis of water Methods of data analysis and interpretation Field activity: detailed measurements in the Bahlui river basin and the city of Iasi Modeling in Geographic Information System of physical, chemical and biological parameters with polluting character for water, specific to a negative situation Generation of a cartographic support as an analysis tool in integrated management
F	RECOMMENDED READING FOR SEMINARS
	1. Drăghiei, C., Perniu, D.,(2002), Poluarea şi monitorizarea mediului, Editura Universităţii Transilvania, Braşov 2. http://www.eea.eu.int; 3. http://www.unep.org; 4. http://www.epa.gov/; 5. http://enrin.grida.no; 6.Tanase N., (2002), Calitatea atmosferei în contextual dezvoltarii durabile", Referat de doctorat, Bucuresti; 7. Tanase N., (2010) Analiza temporala a poluarii. Corelatii între poluanti masurati la statiile de tip trafic, Conferinta Facultatii de Instalatii
G	EDUCATION STYLE
LEARNING AND TEACHING METHODS	Lecture, didactic explanation, heuristic conversation, problematization, case study, demonstration
ASSESSMENT METHODS	Performance evaluation + Seminar Grades
LANGUAGE OF INSTRUCTION	English