COURSE TITLE	SPECTROMETRY IN GEOSCIENCES	CODE: GC 4102

LEVEL (UG-undergraduate/M-master) AND YEAR OF STUDY (1,2,3,4)	M1	SEMESTER	I	STATUS (CO-COMPULSORY/OP-OPTIONAL)	CO

NUMBER OF HOURS/ WEEK				TOTAL HOURS/ SEMESTER	TOTAL HOURS OF INDIVIDUAL WORK	CREDITS	EVALUATION TYPE (D-DURING THE SEMESTER, C-COLLOQUIUM, E-EXAM, M-MIXT)	LANGUAGE
L	S	P	Pr.					
2		2		56	214	9	M	English

LECTURER	POSITION, NAME AND SURNAME	DEPARTMENT
	PhD Assoc. Professor Haino Uwe Kasper	University of Köln, Germany
	PhD Reader Nicolae Buzgar	University "Al. I. Cuza" of Iasi, Geology

PREREQUISITES	Chemistry; Crystallography; Mineralogy; Petrology

OBJECTIVES	To provide basic knowledge regarding modern methods of spectroscopy used in the study of chemical composition and geological formations
COURSE CONTENTS	1. Introduction 2. Atomic absorption spectrometry 3. X-ray flourescence spectrometry 4. Inductively coupled plasma emission spectrometry
PRACTICAL	Mastering of the practical skills to apply the specific spectrometric methods required in order quantitatively to determine the component chemical elements of minerals, rocks, ores and soils
TEACHING METHODS	Lectures, discussion, problem-solving and independent observation

RECOMMENDED READING	Gill R. Ed. (1999). Modern Analytical Geochemistry. Longman. Handbook of silicate rock analysis (2007). Blackie (UK), Chapman & Hall (USA) Robin Gill (eds) (1997) Modern Analytical Geochemistry, An introduction to quantitative chemical analysis for earth, environmental and materials scientists, Longman. Jarvis K.E., Gray Alan L., Houk S. (2007). Handbook of Inductively Coupled Plasma Mass Spectrometry, Viridian Publishing, UK, Phil J. Potts. Kirkbright G.F., Sargent M. (1974). Atomic Absorption and Fluorescence Spectroscopy. Academic Press. Montaser A. (ed) (1998). Inductively Coupled Plasma Mass Spectrometry, Wiley –VCH. Thompson M., Walsh J.N. (2007). Handbook of Inductively Coupled Plasma Atomic Emission Spectrometry, Viridian Publishing, UK. Van Grieken R.E., Markowicz A.A. (eds) (2002). Handbook of X-Ray Spectrometry (2nd ed.). Marcel Dekker, Inc., New York.

ASSESSMENT METHODS	Conditions	Fulfilment of professional obligations (courses and practical work)
	Criteria	Cumulative evaluation
	Way of evaluation	Practical test + Written examination
	Formula of the final mark	0.5 E +0.5 P