COURSE TITLE	RAMAN SPECTROGRAPHY	CODE: GC 4103

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.					
1		1		28	152	6	M	English

LECTURER	POSITION, NAME AND SURNAME	DEPARTMENT
	PhD Reader Nicolae Buzgar	Geology

PREREQUISITES	Chemistry; Crystallography; Mineralogy; Petrology; Geochemistry

OBJECTIVES	To provide basic knowledge regarding Raman spectrography and the method of studying minerals and rocks (qualitative and quantitative determinations).
COURSE CONTENTS	Introduction. The magnitude of Raman dispersion. The collection and detection of dispersed waves (Raman). Background noise. The major components of the spectrograph. Lasers and wavelengths. Filters. Multichannel detectors and CCD. Fibre-optic Raman spectroscopy. Raman microscopy and imaging. Optical devices-lenses. Performance criteria for Raman spectrographs. Tests to evaluate spectrometers.
PRACTICAL	Mastering of the practical skills in applying Raman spectrography to determine quantity and quality of the chemical component elements of minerals, rocks and ores.
TEACHING METHODS	Lectures, discussion, problem-solving and independent observation.

RECOMMENDED READING	McCreery L. R. (2000). Raman Spectroscopy for chemical analysis. John Wiley & Son, Inc. Nakamoto K. (1997). Infrared and Raman Spectra of Inorganic and Coordination Compounds (5th ed.). John Wiley & Sons, Inc. Nyquist R. (2007). Interpreting infrared, Raman and nuclear magnetic resonance spectra. Elsevier. Strat M. (2001). Spectroscopie şi laseri. Teorie şi experiment. Ed. Univ. "Al. I. Cuza" Iaşi.

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 D