

COURSE TITLE	ATMOSPHERE GEOCHEMISTRY AND POLLUTION	CODE: GC 5105
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LEVEL (UG-undergraduate/M-master) AND YEAR OF STUDY (1,2,3,4)	M2	SEMESTER	I	STATUS (CO-COMPULSORY/OP-OPTIONAL)	OP
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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 Traian Gavriloaiei	Geology

PREREQUISITES	Atmospheric Geochemistry; Environmental Geochemistry
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OBJECTIVES	<ul style="list-style-type: none"> <li>- To develop the assimilation, transfer and investigation abilities for atmospheric data analyses;</li> <li>- To understand the complexity of the chemical phenomena that take place in the atmosphere;</li> <li>- To establish and to use the most adequate methods in the quantitative analysis; to identify the main rules which lay at the basis of chemical processes from the atmosphere.</li> </ul>
COURSE CONTENTS	<ol style="list-style-type: none"> <li>1. Inorganic pollutants in the atmosphere. Introduction. Atmospheric particles. Physico-chemical composition of atmospheric particles. Emission and effects of atmospheric particles. Atmogeochemical cycle of carbon, sulphur and nitrogen oxides.</li> <li>2. Atmospheric pollution with metals (factors, speciation, transport and sedimentation, rare metals).</li> <li>3. Wet and dry deposition in the atmosphere. Acid rain.</li> <li>4. Organic pollutants in the atmosphere (natural and antropogenic sources, pollutants from oil, coal industry and biomass). Producing and effects of atmospheric smog.</li> <li>5. Tropospheric models for prediction of atmospheric pollution.</li> </ol>
PRACTICAL	<ol style="list-style-type: none"> <li>1. Statistical interpretation of atmospheric data.</li> <li>2. Analytical methods for gases.</li> <li>3. Analytical methods for particulate material from the atmosphere.</li> </ol>
TEACHING METHODS	Lectures, discussions, problematize, learning through discovery

RECOMMENDED READING	<p>Brasseur G. P., Prinn R. G., Pszenny A. P. (eds.) (2003). Atmospheric Chemistry in a Changing World, Springer Verlag Berlin.</p> <p>Meszaros E. (1999). Fundamentals of Atmospheric Aerosols Chemistry, Akademiai Kiado, Budapesta.</p> <p>Zellner R. (ed.) (1999). Global Aspects of Atmospheric Chemistry, Springer Verlag, Berlin.</p> <p>Wayne R. (2000). Chemistry of Atmospheres, 3<sup>rd</sup> ed., Oxford.</p>
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ASSESSMENT METHODS	Conditions	Attending courses, practical works and seminars
	Criteria	Cumulative evaluation
	Way of evaluation	Evaluation during the semester (VP) + examination (Ex)
	Formula of the final mark	0.75 E + 0.25 D