



Subject code: FG-256-4		Subject name: Meteorological aspects of pollution	
Study cycle: I	Year: II	Semester: III	ECTS credits: 6
Status: Elective		Contact hours: 60 Lectures: 30 Practical courses: 30	
Assigned professors and assistants:		Lecturers and assistants selected for the field to which the course belongs	
Prerequisites:		/	
Subject objectives:		- Introducing students to the basic types of pollutants; - Introducing students to the basic mechanisms of influence of basic meteorological elements on the spatial and temporal distribution of air pollutants; - Introducing students to ecological monitoring and monitoring of air quality; - Introducing students to the basics of geoinformatics modeling of the spatial and temporal distribution of pollutants in the atmosphere.	
Teaching units:		1. Meteorological basis of atmospheric pollution - concept, definitions, aims and objectives of the study; 2. Greenhouse gases - concept, types and their impact on atmospheric warming; 3. Impurities in the atmosphere - concept, definitions, types and their importance for air quality; 4. Ozone layer - concept, significance, destruction processes and his protection; 5. Temperature inversions - concept, definitions, types and theirs impact on air quality; 6. City fogs and smog - concept, definitions, types and their importance for air quality; 7. The first test 8. Extreme forms of precipitation - concept, definitions, types and theirs significance for air quality; 9. Meteorological drought - concept, definitions, types and their significance for air quality; 10. Bar systems - concept, definitions, types and their influence on general meteorological characteristics of the atmosphere; 11. Types of meteorological weather - concept, definitions, types and importance; 12. Weather disasters - concept, definitions, types and their importance for air quality;	



	13. Urban climate - concept, definitions and general characteristics; 14. Climate change - concept, definitions, types and impacts on the general state of the atmosphere and climate; 15. Ecological monitoring and modeling of air pollution.						
Learning outcomes:	Knowledge: - Acquiring basic knowledge about meteorological and climatological basics of atmospheric pollution; - Acquiring basic knowledge about extreme meteorological and climatological phenomena and their effects on pollution atmosphere; - Acquiring basic knowledge about types of air pollutants matter; - Acquiring basic knowledge about the cadastre of air pollutants matter at the national level. Skills: - Knowledge of working with automated environmental stations for measuring air quality; - Knowledge of procedures for manual and automated collection, validation, geoprocessing, interpretation of air pollution data by pollutant type in a real physical environment; - Understanding of spatial and temporal dynamics in the concentration of air pollutants by pollutant type and climatological seasons. Competencies: - Defining the degree of air pollution in relation to reference scales for air pollution with a focus on human health; - Knowledge of the basic aspects of the physical and chemical effects of air pollutants on technical infrastructure in the real environment of urban areas; - Knowledge of geoinformatics basics for geovirtual modeling of the spatial and temporal dynamics of air pollutants.						
Teaching methods:	Multimedia presentation and discussion (lecture); independent student research through the preparation of assignments and seminar papers, joint analysis (practical courses).						
Knowledge testing methods with grading structure¹:	<table><tr><td></td><td><i>Maximum Points</i></td><td><i>Minimum points</i></td></tr><tr><td>Attendance</td><td>5</td><td>3</td></tr></table>		<i>Maximum Points</i>	<i>Minimum points</i>	Attendance	5	3
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Attendance	5	3					

¹ The structure of points and point criteria for each subject is determined by the Council of the organizational unit before the beginning of the academic year in which the subject is taught in accordance with Article 64, paragraph 6 of the Law on Higher Education of Sarajevo Canton



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	<table><tr><td>Participation on lectures</td><td>5</td><td>3</td></tr><tr><td>Test</td><td>40</td><td>22</td></tr><tr><td>Seminar paper</td><td>10</td><td>6</td></tr><tr><td>Final exam</td><td>40</td><td>21</td></tr><tr><td colspan="3"> </td></tr><tr><td>TOTAL</td><td>100</td><td>55</td></tr></table> Assessment: <table><tr><td><i>Grade</i></td><td><i>ECTS grade</i></td><td><i>Points scale</i></td></tr><tr><td>10</td><td>(A) excellent</td><td>95 - 100</td></tr><tr><td>9</td><td>(B) very good</td><td>85 - 94</td></tr><tr><td>8</td><td>(C) good</td><td>75 - 84</td></tr><tr><td>7</td><td>(D) satisfactory</td><td>66 - 74</td></tr><tr><td>6</td><td>(E) sufficient</td><td>55 - 64</td></tr><tr><td colspan="3"> </td></tr><tr><td>5</td><td>(F, FX) insufficient</td><td>55</td></tr></table>	Participation on lectures	5	3	Test	40	22	Seminar paper	10	6	Final exam	40	21				TOTAL	100	55	<i>Grade</i>	<i>ECTS grade</i>	<i>Points scale</i>	10	(A) excellent	95 - 100	9	(B) very good	85 - 94	8	(C) good	75 - 84	7	(D) satisfactory	66 - 74	6	(E) sufficient	55 - 64				5	(F, FX) insufficient	55
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Literature²:	Mandatory: 1. Plazinić, S. Tehnička meteorologija. Naučna knjiga. Beograd, 1985. 2. Penzar, B. i sur.: Meteorologija za korisnike. Školska knjiga i Hrvatsko meteorološko društvo. Zagreb, 1996. Additional: 1. Ninyerola M., Pons X., Roure M. J., Climatological modelling a methodological approach of climatological modelling of temperature and precipitation through GIS techniques. Climatic Change, 2006.																																										

² The Senate of the higher education institution as an institution or a council of the organizational unit of the higher education institution as a public institution determines mandatory and recommended textbooks and manuals, as well as other recommended literature on the basis of which exams are prepared by a special act which is required to be published on its website before the beginning of the academic year in accordance with Article 56, paragraph 3 of the Law on Higher Education of the Sarajevo Canton.