



UNIVERSITY OF SARAJEVO – FACULTY OF SCIENCES
COURSE SYLLABUS

Form SP2

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Subject code: FG-102-4		Subject name: Climatology	
Cycle: I	Year: I	Semester: II	ECTS credits: 6
Status: Mandatory		Total number of hours: 60 Lectures: 30 Practical courses: 30	
Teachers:		Lecturers and assistants selected for the field to which the course belongs	
Prerequisite:		/	
Course objectives:		- Introducing students to dynamic processes in the atmosphere, barometric and circulation systems, and weather phenomena. - Introducing and providing students with knowledge of the basics of climate classifications. - Introducing and providing students with knowledge of the most important climate classifications and climate types. - Introducing and providing students with knowledge of the theoretical foundations of quantitative and qualitative indicators of spatial-temporal dynamics of the main climate types in the Köppen climate classification. - Introducing and providing students with knowledge of basic climate characteristics, climate types, and climate regionalization of Bosnia and Herzegovina. - Introducing and providing students with knowledge of the climate characteristics of cities and the impact of climate on living organisms and humans. - Introducing and providing students with knowledge of the application of climate and global climate regionalization in the educational process in primary and secondary schools.	
Topics:		1. Air masses and air fronts. Types of air masses. Types of air fronts. 2. Barometric systems. Cyclones – formation and development. Types of cyclones. Anticyclones – formation and development. Types of anticyclones. 3. Monsoon circulation. Geographical distribution of monsoons. Weather phenomena – types and consequences. Geographical distribution of phenomena. 4. Climatology – concept, goals, tasks, object of study, and classification. Climatic elements and climatic	



- modifiers. Climate on Earth – general terms, definitions, and significance. Climate classification. Solar and physical climate.
5. Climate – definitions and classification. Principles of climate classification. Climatic indices. Climate classification according to E. De Marton. Geographical distribution of climate types and climate variants according to E. De Marton.
 6. Climate classification according to B.P. Alisov. Geographical distribution of climate types according to B.P. Alisov. Climate classification according to C.W. Thornthwaite. Geographical distribution of climate types according to C.W. Thornthwaite. Climate classification for technical purposes.
 7. First test.
 8. Climate classification according to W. Köppen – basics of classification, climatic indices, and divisions. Main climate classes. Main climate types and climatic subtypes. Tropical rain climates. Geographical distribution of tropical rain climates.
 9. Dry climates. Geographical distribution of dry climates. Moderately warm and rainy climates. Geographical distribution of moderately warm and rainy climates. Snow-forest climates. Geographical distribution of snow-forest climates. Snowy climates. Geographical distribution of snowy climates.
 10. Climate of Europe according to W. Köppen's climate classification. Geographical distribution of main climatic elements in Europe. Geographical distribution of climate classes and main climate types in Europe. Climate of non-European continents according to Köppen's climate classification.
 11. Geographical distribution of main climatic elements in non-European continents. Geographical distribution of climate classes and main climate types on non-European continents.
 12. Climate of Bosnia and Herzegovina according to Köppen's climate classification. Geographical distribution of main climatic elements in Bosnia and Herzegovina. Geographical distribution of climate classes, main climate types, and climatic subtypes in Bosnia and Herzegovina.
 13. Fluctuations and variations in climate. Climate and climate change in the instrumental period. Climate



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and climate change in the Holocene. Climate and climate change in the geological past of Earth. Theories on climate fluctuations and climate cycles.

14. Spatial differentiation of climate. Urban and surrounding climate.

15. Impact of climate on living organisms. Humans and climate.



Learning outcomes:	Knowledge: - Acquiring knowledge about the types of meteorological weather and contemporary climate in the Earth's physical environment; - Acquiring knowledge about the spatial and temporal dynamics of the main climatic elements; - Acquiring knowledge about the types of weather and climate of the world, continents, the global ocean, and selected land regions; - Acquiring knowledge about climate changes within the planetary climate system. Skills: - Knowledge of selected methods of climatological statistics in the processing, graphical representation, and interpretation of climatological data for the purpose of typifying weather and climate types on the macro, meso, and micro scale; - Knowledge of instrumental meteorological monitoring and the methodology of meteorological measurements for defining general and specific meteorological characteristics of the analyzed climatic systems; - Understanding general geo-environmental conditions and knowledge of mechanisms. Competencies: - Defining the impact of the local climatic system on infrastructure within urban areas; - Defining the interconnections and influences of geographical factors on the climate and vice versa; - Knowledge of methods for assessing the degree and intensity of climate change at the local level.
Teaching methods:	- Multimedia presentation and discussion (lecture); - Independent research work of students and joint analysis (practical courses).
Methods of knowledge assessment and evaluation¹:	Knowledge assessment – criteria: - Attendance: maximum 5 points, minimum 3 points required. - Class participation: maximum 5 points, minimum 3 points required. - Written test during the course: maximum 40 points, minimum 22 points required. - Written paper (seminar paper): maximum 10 points, minimum 6 points required

¹ The structure of points and the point criteria for each course are determined by the council of the organizational unit before the start of the academic year in which the course is taught, in accordance with Article 64, paragraph 6 of the Higher Education Law of the Sarajevo Canton.



	- Final exam: maximum 40 points, minimum 21 points required. - Total of 100 points; minimum 55 points required. Evaluation: <table><tr><td>Grade</td><td>-</td><td>ECTS grade</td><td>-</td><td>Points</td></tr><tr><td>10</td><td></td><td>(A) excellent</td><td></td><td>95 - 100</td></tr><tr><td>9</td><td></td><td>(B) very good</td><td></td><td>85 - 94</td></tr><tr><td>8</td><td></td><td>(C) good</td><td></td><td>75 - 84</td></tr><tr><td>7</td><td></td><td>(D) satisfactory</td><td></td><td>65 - 74</td></tr><tr><td>6</td><td></td><td>(E) sufficient</td><td></td><td>55 - 64</td></tr><tr><td>5</td><td></td><td>(F,FX) insufficient</td><td></td><td>< 55</td></tr></table>	Grade	-	ECTS grade	-	Points	10		(A) excellent		95 - 100	9		(B) very good		85 - 94	8		(C) good		75 - 84	7		(D) satisfactory		65 - 74	6		(E) sufficient		55 - 64	5		(F,FX) insufficient		< 55
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7		(D) satisfactory		65 - 74																																
6		(E) sufficient		55 - 64																																
5		(F,FX) insufficient		< 55																																
Literature²:	Mandatory: - Šegota, T. Filipčić, A. (1996): Klimatologija za geografe, Školska knjiga, Zagreb. - Milosavljević, M. (1988): Praktikum iz klimatologije sa meteorologijom, Beograd. Additional: - Milosavljević, M. (1988): Meteorologija, Naučna knjiga, Beograd. - Milosavljević, M. (1988): Klimatologija, Naučna knjiga, Beograd. - Penzar, I., Penzar, B. (1985): Agroklimatologija, Školska knjiga, Zagreb. - Dukić, D. (1981): Klimatologija, Naučna knjiga, Beograd. - Ducić, V., Anđelković, G. (2004): Klimatologija - Praktikum za geografe, Geografski fakultet Univerziteta u Beogradu, Beograd.																																			

² The Senate of the higher education institution as the institution, or the council of the organizational unit of the higher education institution as a public institution, determines the mandatory and recommended textbooks and manuals, as well as other recommended literature based on which exams are prepared and taken, through a special decision that must be published on its website before the start of the academic year, in accordance with Article 56, paragraph 3 of the Higher Education Law of the Sarajevo Canton.