Subject code: FG-102.5-1	**Subject name:** Climatology		
Study cycle: I	**Year:** I	**Semester:** II	**ECTS credits:** 5
Status: Mandatory		**Contact hours:** 60 Lectures: 30 Exercises: 30	
Assigned professors and assistants:			
Prerequisits:	/		
Subject objectives:	The main objectives are: – Introducing and acquiring knowledge about dynamic processes in the atmosphere, baric and circulating systems and weather conditions; – Introducing and acquiring knowledge with the fundamentals of climate classification; – Introducing and acquiring knowledge about the most important climatic classifications and climatic types; – Introducing and acquiring knowledge about the theoretical foundations of quantitative- qualitative indicators of spatial-temporal dynamics of major climate types in Koppen climate classification; – Introducing and acquiring knowledge about the climatic characteristics, climate types and climatic regionalization of Bosnia and Herzegovina; – Introducing and acquiring knowledge about climatic characteristics of cities and the impact of climate change on wildlife and humans; – Introducing and acquiring knowledge about the application of climate and climatic regionalization of the World in educational process in primary and secondary schools;		
Teaching units:	1. Air masses and air fronts. Types of air masses. Types of air fronts. 2. Baric systems. Cyclones - creation and development. Types of cyclones. Anticyclone - creation and development. Types of anticyclones. 3. Monsoons circulation. Geographical distribution of the monsoons. Meterological disasters - types and effects. Geographical distribution of meterological disasters. 4. Climatology - concept, objectives, tasks, object of study and classification. Climate elements and climate		

	modifiers. Earth's climate - general terms, definition and importance. Classification of climate. Solar and physical climate. 5. Climates - definitions and classifications. The principles of climate classification. Climate indexes. Climate classification according to E. De Marton. Geographical distribution of climate types and climatic variations 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 technology purposes. 7. Test 8. Climate classification according to W.Köppen - basics of classification, climate indexes and division. Main climate classes. Main climate types and climate subtypes. The tropical rainforest climate. Geographical distribution of tropical rainforest climate. 9. Arid climate. Geographical distribution of arid climate. Moderately warm and rainy climate. Geographical distribution of moderately warm and rainy climate. Snowy-forests climate. Geographical distribution of snowy-forests climate. Snowy-forests climate. Geographical distribution of snowy-forests climate. 10. European climate according to W.Köppen climate classification. Geographical distribution of major climate elements in Europe. Geographical distribution of climate classes, the main types of climate in Europe. Climate of non-European continents according to W.Köppen climate classification. 11. Geographical distribution of major climate elements of the non-European continents. Geographical distribution of climate classes, the main types of climate of the non-European continents. 12. Bosnia and Herzegovinas' climate according to W. Köppenov climate classification. Geographical distribution of major climate elements in Bosnia and Herzegovina. Geographical distribution of climate classes, the main types of climate and climate subtypes in Bosnia and Herzegovina. 13. Fluctuations and climate variations. Climate and climate change in the instrumental period. Climate and climate

	change in the Holocene. Climate and climate change in the geological history of the Earth. Theories of climate fluctuation and climate cycles. 14. Spatial differentiation of the climate. Climate of the cities and the environment. The influence of climate on the living world. Humans and climate. 15. Climate impact on the biosphere. Climate and mankind.
Learning outcomes:	**Knowledge**: 1. Acquiring knowledge about types of meteorological weather and contemporary climates in the physical environment of the Earth; 2. Acquiring knowledge about spatial and temporal dynamics of main climatic elements; 3. Acquiring knowledge about the weather and climate of the world, continents, world oceans and selected land regions. 4. Acquiring knowledge about climate change within planetary climate system. **Skills**: 1. Knowledge of selected methods of climatological statistics in processing, graphic presentation and interpretation of 1. climatological data for the purpose of typifying types of weather and climates on a macro, meso and micro level; 2. Knowledge of instrumental meteorological monitoring and methodology of meteorological measurements for the purpose of defining general and specific meteorological characteristics of the analyzed climates system; 3. Understanding of general geo-environmental conditions and knowledge of their impact mechanisms on local climate systems; **Competencies**: 1. Defining the effect of the local climate system on infrastructural facilities within urban areas; 2. Defining the interrelationships and influence of geographical factors to climate and vice versa; 1. 3. Knowledge of methods for assessing degree and intensity of climate change at the local level
Teaching methods:	Multimedia presentation and discussion (lectures); practical work, educational material analysis and discussion (exercises).
Knowledge testing	*Points*

methods with grading structure[1]:

Attendance	5
Participation on lectures	5
Tests	40
Seminar paper	10
Final exam	40
TOTAL	100

Assessment:

Grade	*ECTS grade*	*Points scale*
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

Literature[2]:

MANDATORY:

- Šegota, T. Filipčić, A. (1996): Klimatologija za geografe, Školska knjiga, Zagreb.
- Milosavljević, M. (1988): Praktikum iz klimatologije sa meteorologijom

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.

[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

[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.