

Faculty of Philosophy / GEOGRAPHY / Climatology with Basics of Meteorology

Course:	Climatology with Basics of Meteorology			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
2979	Mandatory	1	5	3+1+0
Programs	GEOGRAPHY			
Prerequisites	There are no conditions for enrollment and attendance of the course.			
Aims	The course aims to acquaint students with meteorological and climatological elements, factors, phenomena, and processes.			
Learning outcomes	After passing this exam, the student will be able to: Understand the basic properties of the atmosphere - meteorological phenomena and processes, their interactions, and their impact on the geographical environment, weather, and climate. Possess general knowledge of climate elements (temperature, precipitation, wind, pressure, radiation and insolation, humidity, and others). Properly prepare climate data for a given analysis (organize, synthesize, and verify). Analyze the influence of climate factors on the formation of climates, types, and variations of climate. Apply climate indices to determine the specificities of the climate in a given geospatial area. Interpret climate, synoptic, and other thematic meteorological maps and diagrams. Determine climate specificities using climate indices. Conduct climate regionalization based on general principles and climate indices.			
Lecturer / Teaching assistant	Instructor: Prof. Dr. Dragan Burić; Assistant: Dr. Jovan Mihajlović			
Methodology	Lectures, exercises, fieldwork, consultations, and a final exam.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction, subject, and task of climatology and meteorology; weather and climate.			
I week exercises	Familiarization with the organization of the meteorological service, types of meteorological stations.			
II week lectures	Atmosphere, atmospheric research, organization, and operation of the hydrometeorological service.			
II week exercises	Instrumental measurements of climate elements and visual observations.			
III week lectures	Meteorological phenomena and meteorological elements.			
III week exercises	Classical methods of measurement, automatic meteorological stations, rules for measuring meteorological elements.			
IV week lectures	Interpolation and extrapolation of time series.			
IV week exercises	International symbols for marking meteorological phenomena.			
V week lectures	Processing climate elements - Solar radiation and insolation.			
V week exercises	Encrypted meteorological reports - analysis of SYNOP reports.			
VI week lectures	Air temperature and heat balance.			
VI week exercises	Graphical and computational methods for data verification.			
VII week lectures	Air pressure; Cyclones and Anticyclones.			
VII week exercises	Estimation of missing data - the method of neighboring stations.			
VIII week lectures	First colloquium.			
VIII week exercises	Application of difference and quotient methods.			
IX week lectures	General atmospheric circulation - constant, periodic, and local winds.			
IX week exercises	Matrix method in series interpolation.			
X week lectures	Evaporation; Humidity.			
X week exercises	Extrapolation of time series.			
XI week lectures	Cloudiness and clouds; Precipitation; Snow cover.			
XI week exercises	Distance and altitude difference as determinants of extrapolation.			
XII week lectures	Climatic factors - astronomical, geographical, and meteorological.			
XII week exercises	Components and units of measurement of solar, Earth, atmospheric radiation, and climatic elements.			

XIII week lectures	Complex climate analyses - indices, climate diagrams, Heizer graphs, climate postcards.					
XIII week exercises	Tabular, graphical, and spatial representation of the dynamics of climatic elements.					
XIV week lectures	Köppens climate classification worldwide and in Montenegro.					
XIV week exercises	Application of Excel and SURFER software for systematic calculation and spatial representation.					
XV week lectures	Second colloquium.					
XV week exercises	Calculation and application of temperature sums and climate indices.					
Student workload						
Per week			Per semester			
5 credits x 40/30=6 hours and 40 minuts 3 sat(a) theoretical classes 0 sat(a) practical classes 1 excercises 2 hour(s) i 40 minuts of independent work, including consultations			Classes and final exam: 6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts Total workload for the subject: 5 x 30=150 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 30 hour(s) i 0 minuts Workload structure: 106 hour(s) i 40 minuts (courses), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)			
Student obligations			Attendance of lectures and exercises, seminars, tests, two colloquiums.			
Consultations			Days of classes: Professor - 1 hour weekly, Assistant - 1 hour weekly.			
Literature			Dukić D. (1999): Klimatologija, Geografski fakultet, Beograd. Milosavljević M. (1972): Meteorologija, Naučna knjiga Beograd. Ducić, V. & Anđelković, G. (2006): Klimatologija – Praktikum za geografe, Geografski fakultet, Beograd. Burić, D. (2020): Lectures on Climatology with Basic Meteorology, Authorized Script.			
Examination methods			Homework = 5 points, test/exercises = 5 points, two colloquiums each worth 20 points = 40 points, final exam 50 points. A passing grade is achieved by accumulating at least 50 points cumulatively.			
Special remarks						
Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points