

Course title: Mountains climate

Form of teaching: field work – 30 hrs., 6 p. ECTS, total –30 hrs., 6p. ECTS

Course completion requirements: writing test from the knowledge from meteorology, evaluation of statistical analysis of results of meteorological measurements and observations and their presentation

Language of instruction: English

1. Short description, objectives:

Objective of the course is to provide basic information on the mountains climate, methodology of meteorological measurements and observations, practical use of instruments for measuring meteorological parameters, organization of meteorological station, interpretation of meteorological data

2. Prerequisites:

1. Reading and writing in English,
2. Basic knowledge on meteorology and climatology,
3. Basic knowledge on meteorological instruments,
4. Basics of statistical analysis of climatological data.

3. Learning outcomes

W01 - understands complex atmospheric phenomena and processes and their diversification in the mountains and interactions between human-environment (14K-1A_W01, 14K-1A_W02, 14K-1A_W03, 14K-1A_W06)

W02 - possess a knowledge about methodology of weather measurements and meteorological instruments (14K-1A_W07, 14K-1A_W09)

W03 - possess a knowledge about statistics needed to interpretation of the results of meteorological measurements and observations (14K-1A_W07)

W04 - possess a knowledge about rules of measurements in mountains and knows safety rules in the fieldwork (14K-1A_W09, 14K-1A_W10)

W05 - knows practical applications of meteorological data for projects of mountains environmental protection, mountains spa (14K-1A_W08, 14K-1A_W11)

U01 - freely uses scientific literature on processes in atmosphere, mountains climate, weather measurements and observations; reads complex scientific texts in English (14K-1A_U06, 14K-1A_U08)

U02 - get skills of formulation of logical opinions on the base of information from different sources and critical analysis and selection of information, particularly from internet sources and field work (14K-1A_U04, 14K-1A_U06)

U03 – get skills of statistical analysis of meteorological data and presents their results in the form of a report (14K-1A_U03, 14K-1A_U05, 14K-1A_U07)

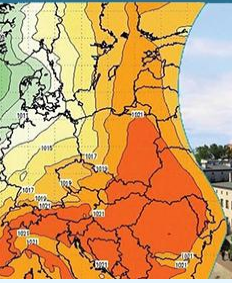
U04 – is able to weather measurements and observations (14K-1A_U01)

K01 - understands of needs for continuous education for all life (14K-1A_K01, 14K-1A_K02)

K02 - systematically updates knowledge in natural science and knows its practical applications (14K-1A_K02)

K03 - get skills of work in a group (14K-1A_K05)

K04 – is responsible for the safety at work in the mountains terrain (14K-1A_K04, 14K-1A_K05)



4. Course description:

- 1) The safety and field work methods instruction in mountains
- 2) Methodology of measurements and observations in mountains
- 3) Construction of measuring weather instruments and their operation
- 4) The organization of weather station.
- 5) Principles of measurements and observations of weather parameters in mountains
- 6) Development and graphical visualization of weather data and their interpretation.

5. Course evaluation

Writing test from meteorology (W01-W05) – 55% total score

Interpretation of results measurements and observations in graphical and written form (W01-W06; U01-U03) – 25% total score,

Presentation of results fieldwork (U01-U04) – 10% total score,

Evaluation of activity (K01-K03) – 10% total score.

6. Teaching methods

Teaching methods: lecture, multimedia presentations, field work

7. Recommended reading list

- [1]. Srivastava, G P, 2008, Surface Meteorological Instruments And Measurement Practices. Atlantic Publishers & Distributors. 429 pp.
- [2]. Ahrens D., 2011, Essentials of Meteorology: An Invitation to the Atmosphere. Brooks/Cole. 528 pp.
- [3]. Barry, R G, 2008, Mountain Weather and Climate. *3rd edition, Cambridge University Press, Cambridge, 506 pp.*
- [4]. Whiteman, C. D., 2000: Mountain Meteorology: Fundamentals and Applications Oxford University Press, New York, 355pp.