



## Course title: Meteorological protection of the coast and lake districts

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 description 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 climate in the near of water reservoirs, methodology of meteorological measurements and observations, practical use of instruments measuring meteorological parameters, interpretation of meteorological data, forms of the protection of the coast and lake districts against extreme weather conditions

### 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

Student:

W01 - understands complex impact of water reservoirs on local climate and interactions between human-environment (14K-1A\_W01, 14K-1A\_W02, 14K-1A\_W06)

W02 - possess a knowledge about methodology of the weather measurements and instruments (14K-1A\_W02, 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\_W02, 14K-1A\_W07)

W04 - knows practical applications of meteorological data for environment protection and economy projects (14K-1A\_W08, 14K-1A\_W11)

W05 – knows a knowledge on processes in atmosphere (14K-1A\_W01, 14K-1A\_W03, 14K-1A\_W05)

W06 – knows basic safety rules during work in terrain (14K-1A\_W09, 14K-1A\_W10)

U01 - freely uses scientific literature on processes in atmosphere and hydrosphere, 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\_U03, 14K-1A\_U04, 14K-1A\_U06)

U03 – get skills of statistical analysis of meteorological data and presents results in the form of a report (14K-1A\_U03, 14K-1A\_U05, 14K-1A\_U07)

U04 - knows how to take meteorological data to protect of the coast and the lake districts

U05 – carries out meteorological measurements and observations in a terrain (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, 14K-1A\_K03)

K03 - get skills of work in a group (14K-1A\_K04, 14K-1A\_K05)

K04 – is responsible for the safety at work in terrain (14K-1A\_K04)

#### 4. Course description:

- 1) The safety and work methods instruction in i near of water reservoirs
- 2) Methodology of meteorological measurements and observations
- 3) Construction of measuring weather instruments and their operation
- 4) Measurements and observations of weather parameters by the use stationary method and field work
- 5) Principles operations of protection systems of the coast and lake districts
- 6) Development and graphical visualization of weather data and their interpretation.

#### 5. Course evaluation

Writing test from meteorology (W01-W06) – 55% total score

Interpretation of results measurements and observations in graphical and written (W01-W06; U01-U05) – 25% total score,

Presentation of results fieldwork (U03-U05) – 10% total score,

Evaluation of activity (K01-K04) – 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.