

<b>Level:</b> bachelor			
<b>Course title:</b> Weather analysis			
<b>Status:</b> obligatory			
<b>ECTS:</b> 4			
<b>Requirements:</b> passed written part of the exam (test)			
<b>Learning objectives</b> Students are expected to expand their knowledge of the basic meteorological fields and systems in the atmosphere, and gain insight into the weather in different atmospheric structures and discontinuities around different surfaces. Graduates who are trained and skilled professionals are able to develop and apply their knowledge in practice in diverse and dynamic areas of the profession.			
<b>Learning outcomes</b> An expert who has the capacity for understanding and analysis of processes occurring in the Earth-atmosphere system. In addition, the ability to present the results of their own work and results obtained by fellow colleagues. Students should possess the ability to apply known solutions in solving new problems, and to master the application of the most used mathematical and numerical methods. This qualifies students to work in scientific research institutions of the importance in Meteorology. They acquire the ability to work independently and build the basis for further education.			
<b>Syllabus</b> <i>Theoretical instruction</i> Meteorological fields and systems in the atmosphere. Temperature field. Pressure field. Moisture field. Wind field. Air masses and discontinual surfaces. The notion and classification of air masses. The conditions of forming and transforming of air masses. The notion and classification of atmospheric fronts. The fields of pressure and temperature in the front zone. The structure of pressure field, current field, temperature field. Mutual synchronization of the meteorological fields (geostrophic and thermic wind). Jet current. Cyclogenesis in moderate latitudes. Cyclogenesis as the consequence of baroclinic instability. Cyclogenesis as the consequence of orography influence. Anticyclons. Weather in various atmospheric structures. Weather in homogeneous air masses. Weather in or around discontinual surfaces. Weather in cyclons of moderate latitudes. Weather in anticyclons. Weather in tropical cyclons. Weather in intertropical convergence zone. Methods of objective analysis. Four-dimensional data assimilation.  <i>Practical instruction</i>			
<b>Weekly teaching load</b>			Other:
Lectures: 2	Exercises: 1	Other forms of teaching: 0	