

Level: bachelor				
Course title: Weather forecasting				
Status: obligatory				
ECTS: 6				
Requirements: passed the written part of the exam (test)				
Learning objectives To introduce students to the historical and contemporary approaches to weather forecasting. Students acquire the basic concepts of modelling and non-modelling forecasting methods and of the whole process of modern preparation, processing and interpretation of the products of the models. The objective of the course is also to create educated and skilled professionals, capable of developing and applying knowledge in the immediate practice, experts in working in diverse and dynamic areas of the profession, who have acquired a sufficient level of understanding of the most important processes in the atmosphere and the ability to constantly expand knowledge.				
Learning outcomes Future experts should have the ability to understand and model the processes important for qualitative evaluation of reports and their interpretation. In addition, they should possess the ability to apply the learned solutions in solving new problems, and to apply the most frequently used mathematical and numerical methods. This should qualify them to work in scientific research institutions of the importance in meteorology and provide them with the ability to work independently and make the basis for further education.				
Syllabus <i>Theoretical instruction:</i> Non-modelling methods of weather forecasting. Justification of the forecasts. Historic review. Time singularities. Statistical methods and persistent methods. Limitations of the non-modelling methods. Modelling methods of weather forecasting. Modelling of processes on the global level. Modelling of meso-scale processes. Modelling of local process. Preparation of initial conditions. The importance and preparation of the boundary conditions. Limits of forecasting. Interpretation of the model products. Interpretation of pressure field. Interpretation of the temperature field. Interpretation wind field. Interpretation of cloudiness and precipitation. The interpretation of the above areas. The interpretation in the point. Specialized reports. Very short-term forecasts. Prognostic interpretation of satellite observations. Prognostic interpretation of radar observations. Interchange of the forecasting products and their visual interpretation. Verification of the model products. Subjective evaluation of the forecast. Quantitative evaluation of the forecasts. <i>Practical instruction:</i> Exercises, Other forms of teaching, Student research.				
Weekly teaching load				Other:
Lectures: 3	Exercises: 1	Other forms of teaching: 1	Student research:	