

<b>Level:</b> Bachelor			
<b>Course title:</b> Meteorological informatics			
<b>Status:</b> elective			
<b>ECTS:</b> 6			
<b>Requirements:</b> Meteorological observation and data processing			
<b>Learning objectives</b> Students are introduced to the importance and role of information technology in the meteorological research. Acquiring basic knowledge about the most current software packages for processing meteorological data, as well as the most frequently used programming languages and operating systems.			
<b>Learning outcomes</b> Upon completion of the course, students should have developed a general ability in professional literature, analysis of different solutions and selecting the most appropriate solutions; ability to work with the current models, and various software packages actively used in modern meteorology. All this qualifies students to work in scientific research institutions and meteorological centres. Students acquire the ability to work independently and obtain the basis for further education.			
<b>Syllabus</b> <i>Theoretical instruction</i> The importance of the role of information technology in the meteorological research. Past achievements in this field. Review of current problems. Programming Languages and Operating Systems. The elements of the programming language FORTRAN. UNIX operating system. Windows NT operating system. Working under the network. Elements of the FoxPro programming language. Working with databases. Models. Overview of current models of small, medium and large scale. The requirements in terms of hardware. Pre-processing importance and techniques. Parallelization problem in the models. Practical work. Visualization. Current problems in visualization. Visualization capability of output parameters in various models. Software packages. Practical problems. Software for processing meteorological data. Fundamentals of organization of the structuring software programs. Graphics packages. Processing of standard meteorological measurements using the software package "Carlos".  <i>Practical instruction</i>			
<b>Weekly teaching load</b>			Other:
Lectures: 3	Exercises: 1	Other forms of teaching: 1	