

<b>Level:</b> master				
<b>Course title:</b> Basics of vacuum physics				
<b>Status:</b> elective				
<b>ECTS:</b> 9				
<b>Requirements:</b> Atomic physics				
<b>Learning objectives</b> To gain knowledge related to basic physical processes related to vacuum, as well as to basics of vacuum obtaining and measuring.				
<b>Learning outcomes</b> Upon completion of the course, students should possess: <ul style="list-style-type: none"> <li>– General abilities: of analysis and synthesis, developing the simple models;</li> <li>– Subject specific abilities: understanding of basic physical processes related to vacuum obtaining, knowledge of basic methods for vacuum obtaining and measuring, knowledge on vacuum usage.</li> </ul>				
<b>Syllabus</b> <i>Theoretical instruction</i> Composition of the Earth atmosphere. Basic properties of the ideal and real gasses. Basics of molecular phenomena in the gases. Basics of diffusion, effusion and viscosity. Flow of gases through tubes and orifices. Basics of phase transitions. Basics of bound gasses. Basics of pumping processes. Basics of gas and vapour low pressure measurements.  <i>Practical instruction</i> Practical laboratory and problem solving exercises based on the theoretical part.				
<b>Weekly teaching load</b>				Other:
Lectures: 3	Exercises: 1	Other forms of teaching: 1	Student research:	