

<b>Level:</b> bachelor				
<b>Course title:</b> Physics of ionized gases				
<b>Status:</b> obligatory/elective				
<b>ECTS:</b> 6				
<b>Requirements:</b> Basic electronics, Atomic physics				
<b>Learning objectives</b> To introduce students to the processes in ionized gases and plasmas.				
<b>Learning outcomes</b> After completion of the course, students should have developed: - General skills: reading professional literature, gained experience and knowledge to set new experiments applicable in electronics, atomic physics, in physics of new materials etc. - Specific skills: students gain knowledge of elementary processes in ionized gases and plasmas. Based on this knowledge, students become familiar with the broad application of ionized gas.				
<b>Syllabus</b>  <i>Theoretical instruction</i> The formation of ions in the gas. Kinetics of elementary processes. The degree of ionization and the principle of detailed balance. The movement of charged particles in the gas. Non-sustained discharges. Townsend's zones. Self-sustained discharges. Glow discharge, corona, arc discharge, spark and high-frequency discharge. Application of electrical gas discharges. The main characteristics of the plasma.  <i>Practical instruction</i> The exercises that follow the content of lectures: Check of Paschen's law. The determination of work function. The determination of volt ampere arc characteristic. Determining the distribution of glow discharge potential.				
<b>Weekly teaching load</b>				Other:
Lectures: 3	Exercises: 1	Other forms of teaching: 1	Student research:	