

<b>Level:</b> master				
<b>Course title:</b> Radiation Transfer through Atmosphere				
<b>Status:</b> elective				
<b>ECTS:</b> 9				
<b>Requirements:</b> Atmospheric Radiation				
<b>Learning objectives</b> Providing the knowledge about the transfer of electromagnetic radiation in the atmosphere and its impact on short term and long term atmosphere processes.				
<b>Learning outcomes</b> After taking the course, the student should have developed: <b>General capabilities:</b> basic knowledge of this field, following the literature, analysis of various solutions and the choice of the most adequate solution, application in practice and other subjects. <b>Subject-specific capabilities:</b> knowledge of the radiometric quantities and the laws of their transfer; understanding of the impact of radiative processes to climate.				
<b>Syllabus</b> <i>Theoretical instruction</i>  Basic ideas about radiation. Photometric and radiometric quantities and units. The notions of absorption and scattering (Rayleigh and Mie). Multiple scattering theory. Scattering on atmospheric particles. Radiation transfer. Various forms of transfer equation. Absorption of Solar radiation in atmosphere in various regions of the spectrum. Infrared radiation transfer in the atmosphere. Theoretical band models.  <i>Practical instruction</i>  Problem solving, homework, seminars.				
<b>Weekly teaching load</b>				Other:
Lectures: 3	Exercises: 1	Other forms of teaching: 1	Student research:	