

<b>Level:</b> master				
<b>Course title:</b> Trends in Instrumental Analysis (IHA-405)				
<b>Status:</b> elective				
<b>ECTS:</b> 7				
<b>Requirements:</b> none				
<b>Learning objectives</b> To teach students how to understand the working principles and characteristics of complex analytical instruments, automatic and automated instruments, miniaturized analytical systems, and various types of chemical sensors. The knowledge acquired should prepare the students to solve complex analytical problems by applying the appropriate analytical techniques. In addition, the students will learn the trends of development in the area of instrumental analysis.				
<b>Learning outcomes</b> Upon successful completion of this course, students should know to: <ul style="list-style-type: none"> <li>• Apply some of complex analytical instrument in practice;</li> <li>• Apply some of automatic and automated instruments in practice;</li> <li>• Apply some of miniaturized analytical systems, as well as chemical sensors in practice;</li> <li>• Clearly and accurately analyze and interpret the results of the analysis; and</li> <li>• Propose/formulate modern and adequate analytical approach to solving particular complex analytical problems.</li> </ul>				
<b>Syllabus</b> <i>Theoretical instruction</i> Trends in chemical and instrumental analysis. Multidimensional techniques. Hyphenated techniques. Automation and automated instruments. Miniaturized analytical systems. Chemical sensors. New technology and strategy in the instrumental analysis. Choice of optimal analytical method.  <i>Practical instruction</i> Practical instructions follow the theoretical instructions.				
<b>Weekly teaching load</b>				Other:
Lectures: 3	Exercises: 3	Other forms of teaching:	Student research:	