

**Current subject area:**  
**Physics**

<b>Status</b>	<b>Course code / number in the book:</b> <b>Applied Spectroscopy</b> <b>Taught by: Prof. Volodymyr Kapustianyk</b>			
<b>Acad. cycle</b>	<b>ECTS credits</b>	<b>Duration</b>	<b>Semester</b>	<b>Contact hours</b>
Master	5	1 semestr	Spring	51
<b>Year of study</b>	<b>Weekly lectures/seminars</b>		<b>Prerequisites</b>	
I	2/1		Spectral analysis and condensed matter spectroscopy	
<b>Languages</b>	<b>Examination</b>		<b>Assessment</b>	
English	Exam.		100-point scale	

**Aims and objectives:** provide with knowledge concerning the principal regularities and objectives of the spectral analysis and condensed matter spectroscopy.

**Description:** The course is devoted to study of different optical and spectral methods of the elementary chemical analysis. Besides, the different methods of the condensed matter spectroscopy are considered. The main attention is devoted to study of the elementary chemical composition, molecular and crystalline structure of materials. Besides, the different chemical and physical phenomena and processes are analyzed on the basis of the optical spectroscopy data.

**Reading list:**

1. V.Kapustianyk, V.Mokryi. Applied Spectroscopy ( in Ukrainian ).- Lviv.: Ed. Ivan Franko National Univ. of Lviv. - 2009.-305 p.
2. A.B.P. Lever. Inorganic Electronic Spectroscopy.- Amsterdam.: Elsevier.- 1987. V.1 – 492 p.
3. K. Nakamoto. Infrared and Raman Spectra of Inorganic and Coordination Compounds.- New York.: Wiley.- 1991.- 536 p.
4. Kapustianik V. B. Temperature Evolution of the Optical Absorption Edge in the  $A_2BX_4$  Type Compounds with Organic Cation // Phys. Stat. Sol. (b).-1997.-V. 204.-P. 877-887.
5. Kapustianyk V. Nanoferroics: New Effects, Properties, Possibilities // Journal of Physical Studies. – 2013. – V. 17, No 3. – P. 1702 (22 p).