

Information sheet for the course Optical and optoelectronic devices

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of special technology</i>					
Course unit code: <i>ŠST/B/1-82/d</i>			Course unit title: <i>Optical and optoelectronic devices</i>		
Type of course unit: <i>compulsory</i>					
Planned types, learning activities and teaching methods: <i>2 hours of lectures per week, 2 hours of exercises per week</i>					
Number of credits: <i>4</i>					
Recommended semester: <i>5th semester in the 3rd year of study /full-time / 7th semester in the 4th year of study /part-time /</i>					
Degree of study: <i>I.</i>					
Course prerequisites: <i>ŠST/B/4-01/d Matematika I, ŠST/B/4-02/d Matematika II, ŠST/B/4-07/d Fyzika I, ŠST/B/1-81/d Základy elektrotechniky a elektroniky</i>					
Assessment methods: <i>Continuous assessment: 100% participation in exercises, meet the goals set exercises, min. 60% attendance at lectures, correctly semester work, demonstrate knowledge of subject course in written and oral examination.</i>					
Learning outcomes of the course unit: <i>The student will obtain a comprehensive overview and basic understanding of the structure and function of the optical and optoelectronic devices. The student should be able to analyze and evaluate optical and optoelectronic systems used in special technology to be able to evaluate and implement optical and optoelectronic systems in the equipment design and technology.</i>					
Course contents: <i>Physical principles of optics and photonics. Spreading of optical radiation in environment. Sources of optical radiation. Image forming in term of geometrical optics. Image forming in term of wave optics. Detection of optical radiation. Energy calculation of optical systems. Fundamentals of optical-mechanical design of the instrument. Optical and optoelectronic sensors. The design and use of basic optical and optoelectronic devices.</i>					
Recommended of required reading: <i>DADO, M. a kol.: Kapitoly z optiky pre technikov. EDIS, Žilina 1998.- 348 s. - ISBN 80-7100-390-5 HOBBS, P.: Building electro-optical systems. Wiley 2009 - 799 p. - ISBN 978-0-470-40229-0</i>					
Language: <i>Slovak, English</i>					
Remarks: <i>Course is obliged.</i>					
Evaluation: <i>Total number of students being evaluated 237 divided by notes</i>					
A	B	C	D	E	FX
6,7	10,6	43,9	29,6	8,8	0,4
Lecturers: <i>Assoc.prof. Ing. Lubomír Uherík, CSc.</i>					
Last modification: <i>15.4.2014</i>					
Supervisor: <i>prof. Ing. Jiří Balla, CSc., guarantee of the study program Special Mechanical Engineering</i>					