

Information sheet for the course Technology of Special Inorganic Materials

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>	
Course unit code: <i>MI-I-PV-15B</i>	Course unit title: <i>Technology of Special Inorganic Materials</i>
Type of course unit: <i>optional</i>	
Planned types, learning activities and teaching methods: <i>Lecture: 2 hours weekly/26 hours per semester of study; face to face</i> <i>Seminar: 1 hour weekly/13 hours per semester of study; face to face</i> <i>Laboratory tutorial: 0</i>	
Number of credits: <i>3</i>	
Recommended semester: <i>3rd semester in the 2nd year full-time</i> <i>5th semester in the 3rd year part-time</i>	
Degree of study: <i>the 2nd degree of study (Engineer's degree)</i>	
Course prerequisites: <i>none</i>	
Assessment methods:	
Learning outcomes of the course unit: <i>Students have knowledge about technologies of preparation of special inorganic materials, such as sol-gel materials, glass-ceramics materials, ionically conducting materials, nanomaterials and others.</i>	
Course contents: <i>1. Definition of the special materials, the history</i> <i>2. Special technologies, small-scale technologies</i> <i>3. Physical-chemical principles</i> <i>4. Sol-gel technology I</i> <i>5. Sol-gel technology II</i> <i>6. Sol-gel technology III</i> <i>7. Production of glass-ceramics materials I</i> <i>8. Production of glass-ceramics materials II</i> <i>9. Ionically conducting non-metallic materials</i> <i>10. Inorganic-organic materials</i> <i>11. Nanotechnologies of materials preparation I</i> <i>12. Nanotechnologies of materials preparation II</i> <i>13. Nanotechnologies of materials preparation III</i>	
Recommended of required reading: <i>Muck A.: Základy strukturní anorganické chemie, Academia, Praha 2006, ISBN 80-200-1326-1</i> <i>Rao N.R., Müller A., Cheetham A.K.: The chemistry of nanomaterials, vol.1 a 2, Wiley-VCH Weinheim, 2004</i> <i>Brinker C. J., Scherer G. W.: Sol – gel Science : The physics and chemistry of Sol – gel processing. Academic Press Boston, 1990</i> <i>SWAIN, M.V. (Ed.): Structure and Properties of Ceramics, Vol. 11. In: Cahn, R.W., Haasen, P., Kramer, E.J. (Eds.): Materials Science and Technology: A Comprehensive Treatment. Weinheim: Wiley-VCH, 2000.</i>	
Language: <i>Slovak</i>	
Remarks: <i>none</i>	
Evaluation history: <i>Number of students: 0</i>	

A	B	C	D	E	FX	
0.0	0.0	0.0	0.0	0.0	0.0	
Lecturers: <i>prof. Ing. Eugen Jóna, DrSc.</i>						
Last modification: <i>31.03.2014</i>						
Supervisor: <i>prof. Ing. Darina Ondrušová, PhD.</i>						