Information sheet for the course
Selected Chapters from Glass Technology

University: *Alexander Dubček University of Trenčín*	
Faculty: *Faculty of Industrial Technologies in Púchov*	
Course unit code: *MI-I-PV-40*	**Course unit title:** *Selected Chapters from Glass Technology*
Type of course unit: *optional*	
Planned types, learning activities and teaching methods: *State Examination Subject ; face to face*	
Number of credits: *2*	
Recommended semester: *4th semester in the 2nd year full-time* *6th semester in the 3rd year part-time*	
Degree of study: *the 2nd degree of study (Engineer's degree)*	
Course prerequisites: *Completion of all compulsory and optional courses of the study plan, including MI-I-PV-3B Glass Technology.*	
Assessment methods: *Successful completion of the state examination subject.*	
Learning outcomes of the course unit: *Student will successfully complete the state examination subject.*	
Course contents: 1. *Introduction to the technology glass. Formation and occurrence of glass. Basic chemistry of glass preparation.* 2. *Technologically important oxide and their function in glass. Technologically important inorganic glass-forming systems.* 3. *The glassy raw materials. Glassy sand. Raw materials of aluminium. Raw materials of sodium. Raw materials of potassium. Raw materials of boric. Raw materials of calcium and magnesium. The raw materials are bringing minor components to the glass. Preparation of glassy strain. Utilization of sorted glassy waste. Mechanical preparation of the input raw materials.* 4. *The melting of glass. The mechanism of melting. Glass plaining and homogenisation of glass.* 5. *The bleaching glass. Color of crystal glasses.* 6. *The cooling of glass. The theory of glass.* 7. *Technological requirements for the properties glass (chemical, physical, mechanical, thermal and optical).* 8. *The corrosion of glass. Defects in the glass: striae and their division, rhinestones and bubbles. Combined heat transport* 9. *The basic types of industrially produced glass. Utility glass. Container glass. Technical and flat glass. Glass jewelery.* 10. *Glass furnaces. Ladle furnace. Recuperative furnace. Regenerative furnaces. Glass equipment.* 11. *The refractory materials. Characteristic types of refractory materials and their properties.* 12. *The glass decoration and fining glass.* 13. *Mechanical glass processing: grinding, engraving, drawing and dotting by diamond, sandblasting. Heat treatment of glass.*	
Recommended of required reading: 1. *J.Hlaváč: Základy technologie silikátů. SNTL, Praha 1988, 516 s.* 2. *V.Šatava: Úvod do fyzikální chemie silikátů. SNTL, Praha 1965, 408 s.* 3. *M.Paleček a kol.: Sklářské praktikum. SNTL, Praha 1990, 455 s.*	

4. *A.Smrček, F.Voldřich: Sklářské suroviny. Informatórium, Praha 1994, 387 s.*
5. *I.Fanderlik: Vlastnosti skel. Informatórium, Praha 1996, 313 s*
6. *S.Bachtík, V.Pospíchal: Zušlechťování skla. SNTL, Praha 1964, 295 s.*
7. *M.B.Volf: Sklo ve výpočtech. SNTL, Praha 1984, 332s.*
8. *M.B.Volf: Technická skla a jejich vlastnosti. SNTL, Praha 1987, 318 s.*

Language: *Slovak*

Remarks:

Evaluation history

The total number of evaluated students: *0*

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Lecturers: *Ing. Darina Ondrušová, PhD.*

Last modification: *31.03.2014*

Supervisor: prof. *Ing. Darina Ondrušová, PhD.*