

Information sheet for the course Material and Energy Balances

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>					
Course unit code: <i>MI-P-27</i>			Course unit title: <i>Material and Energy Balances</i>		
Type of course unit: <i>compulsory</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: 2 hours weekly/26 hours per semester of study; face to face</i> <i>Laboratory tutorial: 0</i>					
Number of credits: <i>5</i>					
Recommended semester: <i>4th semester in the 2nd year full-time</i> <i>6th semester in the 3rd year part-time</i>					
Degree of study: <i>the 1st degree of study (Bachelor's degree)</i>					
Course prerequisites: <i>none</i>					
Assessment methods: <i>The course unit ends with exam, which has two parts – theoretical and computational. For graduation of course unit is needed to achieve minimally 60 % for theoretical part and 60 % for computational part. Student obtains the counts for computational part of exam during semester from two computing tests.</i>					
Learning outcomes of the course unit: <i>Student individually solves material and enthalpy balances. Student is able to obtain the information by active way and student can use this information for solving of theoretical and practical problems concerning the processes of mass and energy transfer.</i>					
Course contents: <i>1. Material balances</i> <i>2. Energy balances</i> <i>3. Fluid flow</i> <i>4. Heat transfer</i> <i>5. Evaporation</i> <i>6. Reactors</i> <i>7. Mass transfer</i> <i>8. Adsorption and absorption</i> <i>9. Distillation process</i> <i>10. Extraction</i> <i>11. Drying</i> <i>12. Crystallization</i>					
Recommended of required reading: <i>BAFRNEC, M. a kol.: Chemické inžinierstvo I. Bratislava : Malé Centrum, 1999.</i> <i>DOJČANSKÝ, J., LONGAUER, J.: Chemické inžinierstvo II. Bratislava : Malé Centrum, 2000.</i> <i>KOSSACZKÝ, E., SUROVÝ, J.: Chemické inžinierstvo I. Bratislava : Alfa, 1972.</i> <i>KOSSACZKÝ, E., SUROVÝ, J.: Chemické inžinierstvo II. Bratislava : Alfa, 1983.</i> <i>BAFRNCOVÁ, S. a kol.: Chemické inžinierstvo – príklady a úlohy. Bratislava : STU, 1996.</i>					
Language: <i>Slovak</i>					
Remarks:					
Evaluation history:					
A	B	C	D	E	FX

0.0	0.0	0.0	0.0	0.0	0.0
Lecturers: <i>Ing. Iveta Papučová, PhD., Ing. Jana Pagáčová, PhD.</i>					
Last modification: <i>31.03.2014</i>					
Supervisor: <i>prof. Ing. Darina Ondrušová, PhD.</i>					