

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>PP-P-25</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>4th semester in the 2nd year part-time</i>					
Degree of study: <i>the 1st degree of study (Bachelor's degree)</i>					
Course prerequisites: <i>PP-P-2 Fundamentals of Chemistry</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 knows the principles of design and operation calculations of unit processes and technological equipments.</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>LODES, A., LANGFELDER, I.: Procesy a zariadenia. Bratislava : Alfa, 1987.</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. Jana Pagáčová, PhD., Ing. Iveta Papučová, PhD.</i>					
Last modification: <i>31.03.2015</i>					

Supervisor: *doc. Ing. Ján Vavro, PhD.*