

<b>Study program / course: Mechanical engineering</b>			
<b>Type and level of study: Bachelor academic studies</b>			
<b>Course: Heat and mass transfer</b>			
<b>Lecturers: Nebojsa S. Lukic</b>			
<b>Status of course: Obligatory for module M<sub>4</sub>, V semester</b>			
<b>Number of ECTS: 6</b>			
<b>Precondition: No</b>			
<b>The objective of course</b> The main objective of course is introduction with basic principles of heat transfer: conduction, convection, radiation, combined heat transfer, boiling, condensation, process with humid air, theory of refrigeration and heat pumps. Students obtain knowledge of the recent heat exchanger constructions, principles of mass transfer, binary solutions.			
<b>The outcome of course</b> Student understands basic principles and laws of all heat and mass transfer mechanisms. Student is capable to apply methods for improving of heat and mass transfer process, to calculate heat exchanger active areas. Student is capable to measure the defined values to obtain a setup heat power. Also, student is open to control mass transfer process as distillation (separation of binary solution). Student can apply his obtained knowledge to humid air process (drying and acclimatization) and to heating and refrigeration process.			
<b>Syllabus</b> <b>Theoretical study</b> Conduction, convection, radiation, combined heat transfer, boiling and condensation, humid air, refrigeration and heating cycles, heat exchangers theory, diffusion process, binary solutions. <b>Practical classes</b> Theoretical practice: Carrying out of heat and mass, humid air and refrigeration practical problems. Laboratory practice: Work with real setups of defined issues.			
<b>Recommended reading</b> Bojic M., Hnatko E., Thermotechnics, MFKG, 1987. Voronjec D., Basics of process chemistry, MFBG, 1981. Ilic G., Radojkovic N., Stojanovic I., Thermodynamic II, MFNI, 1996.			
The number of hours of active teaching: 3+2 per week (total 75)			Other classes: 1
Theory: 3	Practical classes: 1.6	Other forms of teaching: 0.4	
		Research study: 0	
<b>Methods of teaching</b> Lectures using video presentations, multimedia, laboratory.			
<b>Evaluation of knowledge</b>			
<b>Pre-final exam obligations</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Activities during the classes:	<b>5</b>	Written exam	<b>20</b>
Practical classes:	<b>10</b>	Verbal exam	<b>20</b>
Colloquiums(s) :	<b>45</b>		
Seminar(s) :	<b>-</b>		