

Study program : <b>Mechanical engineering</b>			
Type and level of studies: <b>Bachelor study</b>			
<b>Course unit: Thermotechnics</b>			
<b>Teacher in charge : Nebojsa S Lukic</b>			
Language of instruction: <b>English</b>			
ECTS: <b>6</b>			
Prerequisites: <b>No</b>			
Semester: <b>Summer semester</b>			
<b>Course unit objective:</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, heat exchangers, heat pipes and desalination process. Students obtain knowledge of the heat exchanger constructions, refrigeration and desalination processes.			
<b>Learning outcomes of Course unit:</b> Student understands basic principles and laws of all heat transfer mechanisms. Student is capable to apply methods for improving of heat transfer process, to calculate heat exchanger active areas. Student is capable to measure the defined values to obtain a setup heat power. Student can apply his obtained knowledge to humid air, refrigeration, heat pipes and desalination processes.			
<b>Course unit contents</b>			
<i>Theoretical classes:</i> Conduction, convection, radiation, combined heat transfer, boiling and condensation, humid air, refrigeration and heating cycles, heat exchangers theory, heat pipes theory, desalination principles.			
<i>Practical classes:</i> Theoretical practice: Carrying out of heat humid air and refrigeration practical problems. Laboratory practice: Work with real setups of defined issues.			
<b>Literature:</b>			
1. Homan, J.P., Heat Transfer (tenth edition), McGraw-Hill, 2010.			
2. Dunn, P., Reay, D.A., Heat Pipes, Pergamon Press, 1982.			
3. Semiat, R., Desalination: Present and Future, Water International, Vol. 25, No 1, pp. 54-65, (2000).			
<b>Number of active teaching hours</b>			<b>Other classes</b>
Lectures: 45	Practice: 30	Other forms of classes:	
<b>Teaching methods:</b> Lectures using video presentations, multimedia, laboratory.			
<b>Examination methods ( maximum 100 points)</b>			
<b>Exam prerequisites</b>	<b>No. of points:</b>	<b>Final exam</b>	<b>No. of points:</b>
Student's activity during lectures	<b>5</b>	oral examination	<b>20</b>
practical classes/tests	<b>10</b>	written examination	<b>20</b>
Seminars/homework			
Project			
Colloquiums:	<b>45</b>		
<b>Grading system</b>			
<b>Grade</b>	<b>No. of points</b>	<b>Description</b>	
<b>10</b>	<b>91-100</b>	Excellent	
<b>9</b>	<b>81-90</b>	Exceptionally good	
<b>8</b>	<b>71-80</b>	Very good	
<b>7</b>	<b>61-70</b>	Good	
<b>6</b>	<b>51-60</b>	Passing	
<b>5</b>	<b>&lt;51</b>	Failing	