

<b>Study program / course:</b> Mechanical Engineering			
<b>Type and level of study:</b> Master academic studies			
<b>Course:</b> Safety Engineering and Risk Management			
<b>Lecturers:</b> Jeremić, M. Branislav; Todorović, M. Petar			
<b>Status of course:</b> Obligatory for module M <sub>6</sub> , II semester			
<b>Number of ECTS:</b> 6			
<b>Precondition:</b> None			
<b>The objective of course</b> This course implied integrated approach to safety problems, risk assessment and risk analysis. Students obtain the possibility to understand significance of this field; they also obtain the basic theoretical and practical knowledge and the skill for modern engineering tool application for risk assessment and analysis realization. Students are also introduced with basic risk sources and damaging effects in industry, and they are also introduced with the methods for their elimination or negative effects reduction. The particular accent is given to practical and independent activities of the students and their realization of the real problems.			
<b>The outcome of course</b> Procure necessary knowledge and skills for risk identification, assessment and controlling in modern technical and business systems. Due to obtained knowledge student has the possibility to active participate in very wide domain of working activities related to technico- technological safety functions and also for insurance of persons and properties. Taking in consideration the integral approach to problem of the risk itself, obtained knowledge also offer the opportunity to work on analysis, assessment and controlling of financial risks, risk related to data usage and data transfer, etc.			
<b>Syllabus</b>			
<b>Theoretical study</b> Introducing with safety engineering and theory of risk. The basic concepts, their correlations and interactions. Safety engineering in technico-technological systems. The basic risk sources and hazard effects in occupational environment. The concept of risk controlling. Phases within the risk controlling process. Advantages and disadvantages of risk controlling process. Application area of risk controlling concept. Actual approach to risk controlling in developed countries. Techniques and methods for risk assessment and risk analysis (What-If?, HAZOP, FMEA). Techniques and methods for analyses of consequences effects and incident probability (ETA, FTA). Appliance of computer aided systems and software packages for risk assessment.			
<b>Practical Studies:</b> Modern safety systems, Hazard and danger diagnostics. Risk assessment at real systems. Software appliance at risk assessment. Within the study researching activities, students will be capable for some basic researching within the course field.			
<b>Recommended reading</b> 1. Jeremić B., Mačužić I., Todorović P., Safety Engineering and Risk Management, script			
The number of hours of active teaching:			Other classes:
Theory: 2	Practical classes: 1.6	Other forms of teaching: 0.4	Research study: 0
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<b>Methods of teaching</b> Teaching is performed through lectures, auditorium and laboratory exercises. For teaching presentation a modern teaching facilities-video presentation are used. Through different case studies for each teaching field a variety of different domestic and world industrial, technical and business practical examples are taken in consideration. Laboratory examinations are performed in modern, high equipped cabinets by using of all available didactical resources.			
<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>10</b>		
Practical classes:	<b>10</b>	Verbal exam	<b>30</b>
Colloquiums(s) :			
Seminar(s) :	<b>50</b>		