

Risk Engineering Management Course

<i>Name of the subject:</i> Risk Engineering Management - PhD	<i>SUBJECT code:</i> DEMM1REM	<i>Weekly hours:</i> 6 lecture + 4 practical	<i>Credit:</i> 15
<i>Subject leader:</i> Marija Panić	<i>Academic Degree:</i> <i>Assistant Professor</i>	<i>Prerequisites:</i> Basic knowledge in the field of Risk Management, Statistics and Decision Theory	

Purpose: This subject is studied in order to acquire general knowledge and specific skills for recognizing and understanding the engineering risk and the essence of its creation as well as the methods for solving it.

Course description: Through this subject, students achieve knowledge and skills on the basis of which they become competent in analyzing engineering systems and identifying risks in them. Students are also trained to use analytical methods in calculating and ranking the defined risks in the company's technical systems.

Schedule

Weeks	Topics
1.	Engineering risk management objectives
2.	New perspectives of engineering systems
3.	Elements of probability theory
4.	Conditional probability and Bayes' rule
5.	Applications to engineering risk management; Probability Inference - An Application of Bayes' Rule; Writing a Risk Statement
6.	Elements of decision analysis
7.	The value function
8.	Risk and utility functions
9.	Applications to Engineering Risk
10.	Risk Identification and Approaches
11.	Risk Analysis and Risk Prioritization
12.	Risk Management and Progress Monitoring
13.	Measuring Technical Performance Risk
14.	Risk Management for Engineering Enterprise Systems

Final grade:**Structure of the mark:**

- seminar essay – up to 20 points;
- written part of the exam – up to 40 points;
- oral part of the exam – up to 40 points.

The evaluations, based on the results are as follows:

- 0-50 fail (5);
- 51-60 pass (6);
- 61-70 good (7);
- 71-80 very good (8);
- 81-90 excellent (9);
- 91-100 exceptional (10).

Compulsory literature:

1. Ж. Живковић, М. Савић, И. Михајловић, Ђ. Николић, Управљање инжењерским ризиком, Технички факултет, Бор, 2013.

Supplemental literature:

1. P. R. Garvey, Analytical methods for risk management, (A system engineering perspective), CRC, Pres, 2009.
2. M. Wood, Risk Management in Organizations, Routledge, London and New York, 2011.
3. T. Aven, J. R. Vinnem, Risk Management, Springer, 2010.
4. J. J. Hampton, Fundamentals of enterprise risk management, AMACOM, New York, 2009.
5. P. M. Collier, Fundamentals of risk management for accountants and managers, Elsevier, 2009.
6. G. Rejda. Principles of Risk Management and Insurance 11.edition, Pearson, 2011.