

Faculty of Mechanical Engineering / ROAD TRAFFIC / RESOURCE MANAGEMENT

Course:	RESOURCE MANAGEMENT			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
11496	Mandatory	6	4	2+2+0
Programs	ROAD TRAFFIC			
Prerequisites	No prerequisites			
Aims	The main goal of the course is to acquaint students with planning and resource management (human and material) in transport and other companies and mastering risk assessment techniques in the workplace, predictions using correlation and regression analysis, analysis of problems on the basis ABC method and Ishikawa diagram, process flow mapping, optimization using Lean, etc			
Learning outcomes	After passing the exam in this subject, students will be able to: • Understand the importance of systemic of resource management • Apply mathematical methods and techniques of planning and forecasting the necessary of resources • They solve the problems of the flow of resources • They propose solutions to increase the level of reliability and efficiency of resource management			
Lecturer / Teaching assistant	Prof. dr Jelena Šaković Jovanović			
Methodology	Teaching of each chapter, discussions and explanations with students during the presentation. Short orals checks of understanding and knowledge of parts of the material covered in the lectures. Exercises on concrete examples and case studies. Visiting companies and preparing seminar papers in chosen business environment			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	The role and importance of resources in transport organizations. Terms of definition. Sharing of resources.			
I week exercises	The role and importance of resources in transport organizations. Terms of definition. Sharing of resources.			
II week lectures	Enterprise through a network of processes. Description and analysis of the process flow using the Flow Diagram. Practical examples.			
II week exercises	Enterprise through a network of processes. Description and analysis of the process flow using the Flow Diagram. Practical examples.			
III week lectures	Matematičko predviđanje potreba. Korelaciona i regresiona analiza u predviđanju resursa. Dijagram rasipanja. Praktični primjeri. Primjena Minitab softverskog programa.			
III week exercises	Matematičko predviđanje potreba. Korelaciona i regresiona analiza u predviđanju resursa. Dijagram rasipanja. Praktični primjeri. Primjena Minitab softverskog programa.			
IV week lectures	Human resources – Mathematical forecasting of supply and demand. Calculation of supply and demand of human resources in order to optimize the process flow. Practical examples			
IV week exercises	Human resources – Mathematical forecasting of supply and demand. Calculation of supply and demand of human resources in order to optimize the process flow. Practical examples			
V week lectures	Recruitment and selection of personnel. Motivation and satisfaction. Service-oriented competencies. Team work and communication skills. Techniques for improving teamwork.			
V week exercises	Recruitment and selection of personnel. Motivation and satisfaction. Service-oriented competencies. Team work and communication skills. Techniques for improving teamwork.			
VI week lectures	Safety and health at work. Application of quantitative and qualitative risk assessment methods to workplace. Cause-effect analysis using the Ishikawa diagram. Practical examples. Participation expert from practice.			
VI week exercises	Safety and health at work. Application of quantitative and qualitative risk assessment methods to workplace. Cause-effect analysis using the Ishikawa diagram. Practical examples. Participation expert from practice.			
VII week lectures	Preparation for the I test			
VII week exercises	I test			
VIII week lectures	Material resources. Management of the supply of jobs. Supplies. Application of the ABC method in optimizing the management of material resources. Application of the Minitab software program Practical examples			

VIII week exercises	Material resources. Management of the supply of jobs. Supplies. Application of the ABC method in optimizing the management of material resources. Application of the Minitab software program Practical examples
IX week lectures	Material movement management. Flow chart of materials/technological processes. Practical examples.
IX week exercises	Material movement management. Flow chart of materials/technological processes. Practical examples.
X week lectures	Management of internal and external transport. Transport problem. Mathematical methods solving the transport problem. Practical examples.
X week exercises	Management of internal and external transport. Transport problem. Mathematical methods solving the transport problem. Practical examples.
XI week lectures	Value stream mapping. Methods and techniques of the Lean approach in the optimization of technological processes. Practical examples with Lean equipment (Lean SMED training simulation, 5S Challenge game).
XI week exercises	Value stream mapping. Methods and techniques of the Lean approach in the optimization of technological processes. Practical examples with Lean equipment (Lean SMED training simulation, 5S Challenge game).
XII week lectures	Management of technical systems. Effectiveness of technical systems. Identification and categorization
XII week exercises	Management of technical systems. Effectiveness of technical systems. Identification and categorization
XIII week lectures	Software support for resource management. MRP and ERP systems
XIII week exercises	Software support for resource management. MRP and ERP systems
XIV week lectures	Preparation for the II test
XIV week exercises	II test
XV week lectures	Defense of seminar papers
XV week exercises	Preparation for the Final Exam
Student workload	
Per week	Per semester
4 credits x 40/30=5 hours and 20 minuts 2 sat(a) theoretical classes 0 sat(a) practical classes 2 excercises 1 hour(s) i 20 minuts of independent work, including consultations	Classes and final exam: 5 hour(s) i 20 minuts x 16 =85 hour(s) i 20 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 5 hour(s) i 20 minuts x 2 =10 hour(s) i 40 minuts Total workload for the subject: 4 x 30=120 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 24 hour(s) i 0 minuts Workload structure: 85 hour(s) i 20 minuts (cources), 10 hour(s) i 40 minuts (preparation), 24 hour(s) i 0 minuts (additional work)
Student obligations	Students are obliged to regularly attend classes and exercises, work colloquia and participate in the implementation of student projects (seminars works) that they define in agreement with the subject teacher i a representative of one of the local companies
Consultations	Tuesday and Thursday 10-12h
Literature	Miloš Milovančević, Upravljanje ljudskim resursima u inženjerskom menadžmentu, Univerzitet u Nišu, Mašinski fakultet, 2015 J. Jovanović, M. Perović, Proizvodni menadžment, udžbenik, Mašinski fakultet, 2014 Aleksandar Vujović, Milan Perović, Zdravko Krivokapić, Jelena Jovanović, "Industrijski inženjering", Univerzitet Crne Gore, Mašinski fakultet Podgorica, 2014, ISBN 978-9940-527-38-9. Edward E. Lawler III; John W. Boudreau, Effective Human Resource Management: A Global Analysis, Stanford University, Stanford, 2012 Milan Martinović, Zorica Tanasković, Menadžment ljudskih resursa, Užice 2014
Examination methods	2 tests of 20 points each. Seminar paper - 10 points. Final exam - 50 points. A passing grade is obtained when the candidate achieves at least 50 points on the condition that he passes all colloquiums with a minimum of 50%.
Special remarks	

Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points