

NAME OF THE COURSE		PROJECT MANAGEMENT AND DECISION SUPPORT				
Code		Year of study	1, II.semester			
Course teacher	Snježana Knezić, PhD, Full professor, tenure	Credits (ECTS)	5.0			
Associate teachers	no one	Type of instruction (number of hours)	L	S	E	F
			30		15	
Status of the course	compulsory	Percentage of application of e-learning	0%			
COURSE DESCRIPTION						
Course objectives	According to the labor market needs, the objectives of the course is to introduce project planning and control related to the water resources and environment, project risk management, decision support system models, multicriteria models and expert systems.					
Course enrolment requirements and entry competences required for the course	Undergraduate qualification (6th level of EQF or CROQF) in the technical or natural sciences. Particular competences (6th level of EQF or CROQF), the student: <ul style="list-style-type: none"> <li>interprets, selects, assesses and uses general mathematical and statistical models for modelling real and hypothetical problems/situations.</li> <li>uses standard ICT for an application of general mathematical and statistical models.</li> </ul>					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	The student will: <ul style="list-style-type: none"> <li>plan life-cycle of water resources/environment related projects, and assess a success of project management;</li> <li>plan and control resources usage in constrained situations;</li> <li>optimise project processes and develop simulation models;</li> <li>manage project risks and multi-project/large-scale systems;</li> <li>apply system analysis in complex water resources/environmental management systems;</li> <li>create decision support concepts and models, and assess their efficiency and efficacy;</li> <li>generate MCDM and some ES models, and validate their functionality.</li> </ul>					
Course content broken down in detail by weekly class schedule (syllabus)	Project life-cycle (1+0). Project planning methods (3+2). Resources planning (2+1). Resources management in constrained situations (2+1). Optimization of resources usage (2+1). Project risk management (2+0.5). Modeling of activity duration (1+1). Simulation (Monte Carlo, Cyclone) (3+2). The most efficient project duration (1+0.5). System and decision theory (2+0). System analysis (1+0). Decision support models (2+0). Decision support systems paradigm (1+0). Multicriteria decision making (MCDM) (3+2). Concepts of expert systems (ES) and knowledge base models (2+2). MCDM and ES as a part of decision support systems in environmental and water resources engineering (2+2).					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			
Student responsibilities	Preparation of an assignment.					

Screening student work ( <i>name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course</i> )	Class attendance	1.125	Research	1.0	Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests		Oral exam	0.475	(Other)	
	Written exam	0.4	Project	2.0	(Other)	
Grading and evaluating student work in class and at the final exam	The student may choose between following options: - continuous assessment and assessment of the assignment or - final exam and assessment of the assignment.					
Required literature (available in the library and via other media)	<b>Title</b>				<b>Number of copies in the library</b>	<b>Availability via other media</b>
	S. Knezić: lectures as ppt files;				0	Faculty's web pages
	H.N. Ahuja, S. P. Dozzi, S. M. Abourizk: Project management – Techniques in Planning and Controlling Construction Projects, John Wiley & Sons, 1994.				1	N/A
	D. W. Halpin, L.S. Riggs: Planning and Analysis of Construction Operations, John Wiley & Sons, 1992.				1	N/A
	E. Turban: Decision Support and Expert Systems (Management Support Systems), Macmillan Publishing Company New York, 1993.				1	N/A
Optional literature (at the time of submission of study programme proposal)	(H. Kerzner: Project Management, a System Approach to Planning, Scheduling and Controlling, VNR New York. To be defined in accordance with student's particular interests and theme of student's assignment.					
Quality assurance methods that ensure the acquisition of exit competences	Quality assurance will be performed at three levels: (1) University level, through questionnaires; (2) Faculty level by Quality Control Committee; (3) Lecturer's level.					
Other (as the proposer wishes to add)	Learning outcomes are at 7th level of EQF-a and CROQF					