

Table S2.6.4. Form for the preparation of the course information sheets				
Name of the subject: <i>Reliability-based maintenance</i>				
Code of the subject	Status of the subject	Semester	Number of ECTS credits	Class load
	Obligatory	II	10	3L+1E+0P
Study programme for which it is organized: Doctoral Studies in Sustainable Development, MARDS , Studies on Maritime Faculty, Study Programme Nautical Studies, 3 years (6 Terms), 180 ECTS credits				
Dependency by other subjects: No prerequisites for course enrolment and attending				
Objectives of studying this subject: Students will master the concepts of convenience and reliability of maintenance, and analyze the reliability of different systems and explore the impacts and dependencies on the operation				
Contents of the subject (teaching units, forms of students' individual work, forms of testing) presented per working weeks in the academic calendar:				
Preparatory week	Preparation and semester enrolment			
I week	System Efficiency.			
II week	Theoretical bases of reliability of technical systems.			
III week	Application of reliability in the function of maintenance of various technical systems.			
IV week	Methods for determining the reliability of time systems.			
V week	Reliability prediction.			
VI week	Reliability allocation.			
VII week	Reliability growth.			
VIII week	Reliability cost optimization			
IX week	Setting reliability requirements and measures for their realization.			
X week	Reliability of different structural elements.			
XI week	Probability and risk based on planned inspections of technical structures.			
XII week	Reporting system. Analysis of corrective actions in case of failure.			
XIII week	System failure analyzes and practical examples and exercises.			
XIV week	Convenience of maintenance and availability of technical systems.			
XV week	Risk assessment of technical structures. Formal safety assessment.			
Methods of education: Lectures, preparation conference and practical work, final exam, consultations.				
Students' load				
<u>Weekly</u>		<u>In Semester</u>		
10 credits x 40/30 = 13hours + 20 minutes		Teaching and the Final Exam: 13h + 20 min. x 16 = 199h + 30 minutes		
Structure:		Necessary preparation before Term starting (admin., enrolment, verification): 2 x (13h + 20 min) = 26h + 40min		
3 hours of lectures		Total hours for the course: 10 x 30 = 300h		
1 hours of exercise		Additional hours for preparing correction of final exam, including the taking of the exam: 0 do 73h and 50 minutes		
0 hours of practical work		Structure of the students' duties: 199h + 20 min.(lectures) + 26h + 40min + 73h and 50 minutes(additional work)		
9 hours 20 minutes of individual work, including consultations				
Students' obligations during the teaching: Students are required to attend classes (lectures and exercises) and to take Preliminary Exams and the Final Exam.				
Literature:				
1. B. Vasić I dr., Održavanje tehničkih Sistema, Beograd 2006.				
2. Marinko Aleksić, Napredne koncepcije održavanja brodskih i lučkih postrojenja, Skripta				
3. Nikola Vujanović: Teorija pouzdanosti tehničkih sistema, Beograd, 1990.				
4. M. Aleksić, D. Petrović. P. Stanojević., Održavanje prema pouzdanosti, Zenica 2011.				
5. Yong Bai, Marine Structural Design, Elsevier, 2003.				
6. G. Wang, et. All, Condition Assessment of Aged Ships and Offshore Structures, 17th International Ship and Offshore Structures Congress, Volume 2, 16-21 August 2009. Seoul, Korea				

Learning outcomes (complied with the outcomes for the study programme):

1. To acquaint students with specific knowledge about the reliability of maintenance of ship and technical systems.
2. Analyze the reliability of individual ship systems.
3. Evaluates, calculates and evaluates the reliability of individual technical systems.
4. Interpret the convenience and usability of ship systems.
5. Apply a formal safety assessment to the various elements of the shipping industry.
6. Develop professional work on the topic of reliability of ship systems.

Forms of tests and evaluation:

1. Professional paper, 0 to 50 points.
2. Final exam, 0 to 50 points.

Passing mark is obtained if the student collects at least 50 points.

Name and surname of teacher and associate:

Assoc. Prof. Špiro Ivošević, PhD

Particularities needed to be emphasized for the subject:

Note (if needed):