Course Unit Descriptor

Study Programme: Mechanical engineering, Engineering management, Industrial engineering in the exploitation of oil and gas
Course Unit Title: Machines reliability
Course Unit Code: DAS046
Name of Lecturer(s): Associate Professor Ljiljana Radovanovic
Type and Level of Studies: Bachelor and Master Academic Studies
Course Status (compulsory/elective): Elective
Semester (winter/summer): Winter
Language of instruction: English
Mode of course unit delivery (face-to-face/distance learning): Face-to-face
Number of ECTS Allocated: 6
Prerequisites: None
Course Aims: This course has a role to instruct students in the study of reliability system. The goal of this course is to enable students to solve problems in the field of vehicle maintenance.
Learning Outcomes: Knowledge gained through teaching this course will contribute to ensure that students will be able to determine the reliability of technical system. Students will be trained to solve practical engineering problems in the field of machine reliability.
Syllabus: *Theory* Performance reliability. Performance maintainability. Performance of logistics support. Distribution function in the field of reliability. Assessment of the law of distribution reliability indices. Methods of determining the distribution function. IEC 300-1/ISO9000-4. Construction of machine with regard to reliability. Calculation examples of complex machines reliability. *Practice* Solving practical tasks of teaching units specified for the theoretical classes.
Required Reading: 1. Kailash C. Kapur Michael Pech, Reliability engineering, John Wiley & Sons, Inc., Hoboken, New Jersey, 2014. 2. Andrzej S. Nowak, Kevin R. Collins. - Michigan, Reliability of Structures, McGraw-Hill , 2000

Weekly Contact Hours: 4	**Lectures:** 2	**Practical work:** 2

Teaching Methods: Lectures and students group work. Teaching is carried out through lectures followed by slides and auditory exercises that deepen the resolution certain problems. Lectures and exercises are accompanied by a large number of examples from practice.
Knowledge Assessment (maximum of 100 points): 100

Pre-exam obligations	points	**Final exam**	points
Active class participation		written exam	40

Test I and Test II	30	oral exam	10
Preliminary exam(s)			
Seminar(s)	20		