Course Unit Descriptor

Study Programme: Mechatronics			
Course Unit Title: Mechanics 3 Further Chapters			
Course Unit Code: H303			
Name of Lecturer(s): Dragan Spasić, Nenad Grahovac			
Type and Level of Studies: Bachelor level			
Course Status (compulsory/elective): compulsory			
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: Acquiring expended theoretical and practical knowledge in the field of functionality and element construction, devices and systems, as well as individual mechatronic components which make IC engine equipment			
Learning Outcomes: Acquiring expended theoretical and practical knowledge in the field of functionality and element construction, devices and systems, as well as individual mechatronic components which make IC engine equipment			
Syllabus: Definition, history and division of IC engines. Theoretical IC engine cycles. Theoretical engine cycles: Otto, diesel, combininganalysis and comparison. Theoretical cycles. Actual cycles analysis and selection of calculation cycle parameters. Process of working matter change of four-stroke engines with suction and with specific features of two-stroke engines. Process of compression. Process of combustion. Analysis of engine indicators: middle indicating pressure, indicating power, specific indicating fuel consumption. Analysis of effective engine indicators. Forsage engine indicators: litar and specific power. Heat balance. Combustion processes analysis in Otto and diesel engines. Normal combustion flow phases. Forms of unnormal combustion. Forming space for combustion in Otto and diesel engines. Engines driving characteristics: speed analysis, load, combining, and other characteristics.			
Required Reading: Relevant literature in English, tbd			
Weekly Contact Hours: 4	**Lectures: 2**	**Practical work: 2**	
Teaching Methods: Lectures and practice.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	**Final exam**	points
Group Assignment		Examination Assignment	
Exercises			

Test			
Test			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			