SYLLABUS

1. Course title:

Engines and motor vehicles

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

3

5. Type of course:

◯ Mandatory ◉ Elective

6. Prerequisites:

No

7. Class restrictions:

No

8. Duration / semester:

1 8

9. Weekly contact hours:

9.1. Lectures: 2

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 0

10. Faculty:

Faculty of Mechanical Engineering

11. Department/study program:

Production Mechanical Engineering

12. Lecturer:

Dr.sc.Izudin Delić, assistant profesor

13. Lecturer's e-mail:

izudin.delic@untz.ba

14. Web site:

www.mf.untz.ba

15. Course aims:

The basic objective is to educate students in the domain of knowledge of vehicle construction, functional characteristics of aggregates and systems, application of basic budgeting methods.
Enable the technical understanding of complex requirements that vehicles must meet to meet the environment, security, safety, comfort and economy aspects.
Get an understanding of the role and performance of your vehicle component.
Overview of motor vehicle development trends.

16. Learning outcomes:

Identifying modern vehicle systems and principles of their functioning, principles of budgeting as well as basic principles of their diagnostics.
Categorization of basic assemblies and vehicle sub-assemblies.
Analyze principles of work and application on individual vehicle types
Analyze key factors that define performance, manageability, stability and general concept of wheeled vehicles, and to calculate basic parameters of key factors

17. Course content:

Introduction to the course. Distribution of thermal machines. Four-stroke and two-stroke engines. The processes in the engines. Changing the working fluid. Refill the engine. Variable geometry turbochargers. Harmful emissions of internal combustion engines. The exhaust system of IC engines. Fuel mixture preparation and ignition petrol engines. Combustion in Otto engine.
Fuel mixture preparation and ignition Diesel engine. Combustion in diesel engines. Cooling and lubrication of the engine. Fluid power systems and torque. Vehicle body. The suspension system. The system for driving the vehicle. Vehicle brake system. Vehicle maintenance and technical inspection.

18. Learning methods:

For the purpose of efficient teaching and achievement of set course objectives and student competencies during the course, the following methods will be used:
• lectures using multimedia resources with active participation and discussion of students,
• preparation and presentation of individual and team / group seminar papers,
• presentation in a real environment.

19. Assessment methods:

After 2/3 of the semester students write a test in a written form that covers the topic of the lecture. The test consists of a group of questions of multiple choice, a group of simple recollection questions and a group of essay questions. The total number of students in the first test can reach 30 points. The test puts all students on the subject at the same time, thereby achieving the level of knowledge that is being tested and the conditions in which the student takes the exam. As part of the pre-requisites, students are required to prepare individual or group seminar work that will cover a specific topic from the content of the subject. The seminar paper is submitted to the subject in writing by the teacher for examination and evaluation, and then the oral presentation is presented verbatim with the use of multimedia aids. All group students whose participation is valued individually participate in the creation and presentation of group seminar work. For the seminar work delivered and presented, the student can achieve 0 to 25 points.
The final exam is oral. The right to attend the final exam are students who have achieved at least 50% of the total number of possible examinations on each of the previous test methods.
On an oral exam, the student answers the three questions raised from the curriculum program dealt with in the lectures. An oral exam can be passed if the student answers all three questions. The maximum number of points a student can earn on an oral exam is 40 points.
Checks on all forms of knowledge are recognized as a cumulative test if the result is positive after each individual check and is at least 50% of the total of the predicted or required knowledge and skills.
In order for a student to pass the subject, he must have a minimum of 54 cumulative points of which at least 20 points on the final exam.

20. Assessment components:

The assessment of the exam is based on the total number of points the student has obtained by fulfilling the pre-requisites and passing the exam and contains a maximum of 100 points and according to the following scale
Student Obligations Points
Attendance at lectures 5
Seminar paper 25
Test 30
Total pre-exam 60
Final Exam 20 - 40

21. Required reading list:

1. Mahalec I., Lulić Z., Kozarac D. (2011) Motori sa unutrašnjim izgaranjem, Zagreb, FSB
2. Filipović i. (2006) Motori i motorna vozila, Tuzla, MF
3.Tomić M., Petrović S. (2008) Motori sa unutrašnjim sagorijevanjem, Belgrad, MF

22. Web sources:

http://www.motorna-vozila.com
http://www.mvm.fink.rs

23. Applicable starting from the academic year:

2015/16

24. Adopted in the Faculty/Academy session:

01.06.2016