



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Approval of motor vehicles

	Course
Field of study	Year/Semester
Mechanical and Automotive Engineering	1/1
Area of study (specialization)	Profile of study
Motor vehicles	general academic
Level of study	Course offered in
Second-cycle studies	polish
Form of study	Requirements
part-time	elective

	Number of		
hours			
Lecture	Laboratory classes	Other (e.g. online)	
9	0	0	
Tutorials	Projects/seminars		
0	0		
Number of credit points			
1			

Lecturers	
Responsible for the course/lecturer: PhD (Eng) Jerzy Kupiec	Responsible for the course/lecturer: PhD (Eng) Ryszard Mańczak
Piotrowo Street, 3	Piotrowo Street, 3
60 – 965 Poznan, Poland	60 – 965 Poznan, Poland
Ph: + 48 61 665 2709	Ph: + 48 61 665 2880
E-mail: jerzy.kupiec@put.poznan.pl	E-mail: ryszard.manczak@put.poznan.pl

Prerequisites

The student has a basic knowledge of the construction, operation and operation of motor vehicles and their assemblies as well as of the requirements for motor vehicles.

The student is able to integrate the obtained information, interpret it, draw conclusions, formulate and justify opinions.

The student is aware of the importance of the technical efficiency of the vehicle and understands the technical aspects and consequences of the failure for road safety.



Course objective

Introduction to the issues of approval tests of vehicles and their units. Familiarization with the legal requirements in force in Poland and Europe as well as with the issues related to unit approval and the method of carrying out design changes in vehicles.

Course-related learning outcomes

Knowledge

Has a general knowledge of the types of research and methods of testing working machines with the use of modern measurement techniques and data acquisition.

Has extended knowledge of the standards for working machines in the field of methods of calculating and testing machines, safety, including road safety, environmental protection as well as mechanical and electrical interface.

He knows the main development trends in the field of mechanical engineering.

Skills

Can plan and carry out experimental research of specific processes taking place in machines and routine tests of a working machine or a vehicle from a selected group of machines.

Can communicate on specialist topics with a diverse audience.

Can conduct a debate.

Social competences

He is ready to critically assess his knowledge and received content.

Is ready to recognize the importance of knowledge in solving cognitive and practical problems and to consult experts in case of difficulties in solving the problem on its own.

It is ready to initiate actions for the public interest.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Assessment based on a written test.

Programme content

1. Approval - basic concepts

- the concept of the approval of its historical circumstances and the purpose of use
- the history of the approval tests in Europe and in the world,
- the basic national legal acts concerning the approval legislation and ways to use publicly available sources legal information (issap.sejm.gov.pl, eur-lex.europa.pl),
- approval categories and types of bodies used in approval legislation.



2. The contents and use of the information contained in Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007, which is a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units technical intended for such vehicles.

3. Approval centers in Poland

- legal bases of action approval centers in Poland, the scope of their research and the exercise of supervision over them (Dz.U. of 2017r. item 57 – list of units entitled to conduct research for the approval),

- examples of research centers and the scope of their approval tests (PIMOT, ITS).

4. Examples of approval

- approval procedure based on PORD article 70,

- examples of component approval tests of equipment of vehicles as seat belts, headrests and seats,

- approval requirements in the field of braking the vehicles on the basis of Regulations No 13, 78, 90 UN/ECE and the technical conditions of vehicles (Dz.U. from 2016, item 2022, as amended.).

5. Examples of the approval tests on the impact of vehicles on the environment:

- a study of external noise and the emission of gaseous pollutants based on the entries in the Polish legislation (technical conditions of vehicles and how to conduct technical tests) and international legislation (directives 70/157 and 70/220).

6. The release unit:

- legalese concerning the individual approval included in the Polish legislation (law PORD, regulation on approval) and in the international legislation (framework directive);

- types of vehicles that are subject the individual approval, the scope of the vehicle testing in the approval center under the unit approval procedure,

- the process of the administrative procedure of unit approval, fees for granting a unit admission, numbering of unit approval certificates, differences between unit approval and individual approval WE

7. Design changes:

- legal basis for structural changes that PORD (article 66 and article 81), classification of types of vehicles, classification of entities authorized to perform structural changes, changing vehicle type (classification PKD),

- the range of additional technical check related to the structural changes + examination fee,

Teaching methods



1. Lecture with a multimedia presentation - a combination of an informative and problem lecture.

Bibliography

Basic

1. Kilar H.: Homologacja pojazdów samochodowych, Wydawnictwo uczelniane Politechniki Szczecińskiej, Szczecin 2005r
2. Dyrektywa 2007/46/WE Parlamentu Europejskiego i Rady z dnia 05 września 2007 r. ustanawiająca ramy dla homologacji pojazdów silnikowych i ich przyczep oraz układów, części i oddzielnych zespołów technicznych przeznaczonych do tych pojazdów.
3. Ustawa z dnia 20 czerwca 1997 r. - Prawo o ruchu drogowym Dz.U. z 2017 r., poz. 1260, z późn. zm.
4. Regulaminy EKG ONZ
5. Rozporządzenie Ministra Transportu, Budownictwa i Gospodarki Morskiej z dnia 25 marca 2013 r. w sprawie homologacji typu pojazdów samochodowych i przyczep oraz ich przedmiotów wyposażenia lub części, Dz. U. z 2015 r. poz. 1475
6. Rozporządzenie Ministra Transportu, Budownictwa i Gospodarki Morskiej z dnia 26 marca 2013 r. w sprawie dopuszczenia jednostkowego pojazdu Dz. U. z 2015 r. poz. 148
7. Rozporządzenie Ministra Transportu, Budownictwa i Gospodarki Morskiej z dnia 21 marca 2013 r. w sprawie dopuszczenia indywidualnego WE pojazdu Dz. U. z 2013 r. poz. 396
8. Rozporządzenie Ministra Infrastruktury z dnia 31 grudnia 2002 r. w sprawie warunków technicznych pojazdów oraz zakresu ich niezbędnego wyposażenia Dz.U. z 2016 r., poz. 2022, z późn. zm.
9. Obwieszczenie Ministra Infrastruktury i Budownictwa z dnia 16 sierpnia 2017 r. w sprawie wykazu jednostek uprawnionych do przeprowadzania badań homologacyjnych oraz badań potwierdzających spełnienie odpowiednich warunków lub wymagań technicznych danego pojazdu w celu dopuszczenia jednostkowego pojazdu albo dopuszczenia indywidualnego WE pojazdu, Dz. U. z 2017 r. poz. 57
10. OBWIESZCZENIE MINISTRA INFRASTRUKTURY I ROZWOJU z dnia 21 kwietnia 2015 r. w sprawie ogłoszenia jednolitego tekstu rozporządzenia Ministra Transportu, Budownictwa i Gospodarki Morskiej w sprawie zakresu i sposobu przeprowadzania badań technicznych pojazdów oraz wzorów dokumentów stosowanych przy tych badaniach Dz. U. z 2015 r., poz. 776 z późn. zm.

Additional



Breakdown of average student's workload

	Hours	ECTS
Total workload	15	1,0
Classes requiring direct contact with the teacher	9	0,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	6	0,5

¹ delete or add other activities as appropriate