

Course description

Course abbreviation:	KKS/DSV	Page:	1 / 3
Course name:	Diagnostics of road vehicles		
Academic Year:	2023/2024	Printed:	03.06.2024 10:22

Department/Unit /	KKS / DSV			Academic Year	2023/2024
Title	Diagnostics of road vehicles			Type of completion	Exam
Accredited/Credits	Yes, 4 Cred.			Type of completion	Combined
Number of hours	Lecture 2 [Hours/Week] Tutorial 2 [Hours/Week]			Course credit prior to	YES
Occ/max	Status A	Status B	Status C	Counted into average	YES
Summer semester	0 / -	0 / -	0 / -	Min. (B+C) students	10
Winter semester	0 / -	0 / -	0 / -	Repeated registration	NO
Timetable	Yes			Semester taught	Winter, Summer
Language of instruction	Czech			Internship duration	0
Optional course	Yes			Ev. sc. – cred.	S/N
Evaluation scale	1 2 3 4				
No. of hours of on-premise					
Auto acc. of credit	Yes in the case of a previous evaluation 4 nebo nic.				
Periodicity	K				
Substituted course	None				
Preclusive courses	N/A				
Prerequisite courses	N/A				
Informally recommended courses	N/A				
Courses depending on this Course	N/A				

Course objectives:

The aim of this course is to provide students with knowledge about Diagnostics of road vehicles.

- Inform students with basic form of diagnostics methods
- To introduce students to the problems of diagnostics equipments
- Demonstrate to students of possibilities error detecting.

Requirements on student

Share in lectures; Active attendance minimum at 8 lessons and processing reports in workgroup.

Content

The course deals with diagnostic principles and devices used in automotive practice. The student gains knowledge that is applicable for his future technical activity.

Topics of lectures according to weeks:

- 1st week: Work safety regulations and standards in the field of vehicle diagnostics and repairs
- 2nd week: Basic characteristics of vehicle construction system
- 3rd week: Basic principles of logic elements, control systems and control circuits
- 4th week: Methodological principles of defect detection
- 5th week: Diagnostic equipment based on analog and digital principle
- 6th week: Single-purpose devices for testing the functionality of equipment
- 7th week: Defect detection using specialized equipment
- 8th week: Specialized diagnostic equipment (centers)
- 9th week: Prescribed technical tests of vehicles, MOT
- 10th week: Testing and diagnosis of defects of individual vehicle parts
- 11th week: Testing and diagnosis of defects of individual vehicle systems
- 12th week: Regulations and standards for the overall assessment of the condition of the vehicle

13th week: Vehicle integrated defect detection elements (color displays, etc.)

Weekly lecture contents - see Courseware.

Fields of study

Viz COURSEWARE

Guarantors and lecturers

- **Guarantors:** Doc. Ing. Josef Formánek, Ph.D. (100%)
- **Lecturer:** Doc. Ing. Josef Formánek, Ph.D. (100%)
- **Tutorial lecturer:** Doc. Ing. Josef Formánek, Ph.D. (100%)

Literature

- **Basic:** Vémola, Aleš. *Diagnostika automobilů*. Vydání první. 2006. ISBN 80-85763-31-1.
- **Extending:** *Prospekty a katalogy výrobců automobilů, diagnostických zařízení apod..*
- **Extending:** Motejl, Vladimír; Horejš, Karel. *Učebnice pro řidiče a opraváře automobilů*. Vyd. 1. Brno : Littera, 1997. ISBN 80-85763-00-1.
- **Recommended:** Papoušek, Miroslav; Štěrbá, Pavel. *Diagnostika spalovacích motorů : [praktická příručka]*. 2., aktualiz. vyd. Brno : Computer Press, 2007. ISBN 978-80-251-1697-5.

Time requirements

All forms of study

Activities	Time requirements for activity [h]
Contact hours	52
Preparation for an examination (30-60)	50
Team project (50/number of students)	25
Total:	127

assessment methods

Knowledge - knowledge achieved by taking this course are verified by the following means:

- Combined exam
- Oral exam

Skills - skills achieved by taking this course are verified by the following means:

- Combined exam

prerequisite

Knowledge - students are expected to possess the following knowledge before the course commences to finish it successfully:

- Basic knowledge of vehicle system functions.
- Basic knowledge of measurement methods and measurement devices.
- Basic knowledge of mechanical systems and electrical engineering.

Skills - students are expected to possess the following skills before the course commences to finish it successfully:

- Orientate oneself in the Basic knowledge of common measuring instruments and sw.
- Oriented oneself in the Basic knowledge of systems and components used for transport technique.

Competences - students are expected to possess the following competences before the course commences to finish it successfully:

N/A

teaching methods**Knowledge - the following training methods are used to achieve the required knowledge:**

Interactive lecture

Lecture supplemented with a discussion

Skills - the following training methods are used to achieve the required skills:

Practicum

Interactive lecture

learning outcomes**Knowledge - knowledge resulting from the course:**

Apply theoretical knowledge from diagnostics of road vehicles.

Orientate oneself in the utilization and application diagnostics systems.

Stand alone describes of basic diagnostic methods.

Skills - skills resulting from the course:

To master basic diagnostic methods.

Be well orienting in the possibility of using and applying these systems in vehicles.

Competences - competences resulting from the course:

N/A

Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Engineering	Bachelor	Full-time	Automotive Industry Specialist	1	2020	2023	Compulsory courses	A	3	ZS