

## Course description

<b>Course abbreviation:</b>	KKS/DSV	<b>Page:</b>	1 / 3
<b>Course name:</b>	Diagnostics of road vehicles		
<b>Academic Year:</b>	2023/2024	<b>Printed:</b>	09.07.2025 12:14

<b>Department/Unit /</b>	KKS / DSV			<b>Academic Year</b>	2023/2024
<b>Title</b>	Diagnostics of road vehicles			<b>Type of completion</b>	Exam
<b>Accredited/Credits</b>	Yes, 4 Cred.			<b>Type of completion</b>	Combined
<b>Number of hours</b>	Lecture 2 [Hours/Week] Tutorial 2 [Hours/Week]				
<b>Occ/max</b>	Status A	Status B	Status C	<b>Course credit prior to</b>	Yes
<b>Summer semester</b>	0 / -	0 / -	0 / -	<b>Counted into average</b>	YES
<b>Winter semester</b>	0 / -	0 / -	0 / -	<b>Min. (B+C) students</b>	10
<b>Timetable</b>	Yes			<b>Repeated registration</b>	NO
<b>Language of instruction</b>	Czech			<b>Semester taught</b>	Winter, Summer
<b>Optional course</b>	Yes			<b>Internship duration</b>	0
<b>Evaluation scale</b>	1 2 3 4			<b>Ev. sc. – cred.</b>	S N
<b>No. of hours of on-premise</b>					
<b>Auto acc. of credit</b>	Yes in the case of a previous evaluation 4 nebo nic.				
<b>Periodicity</b>	every year				
<b>Specification periodicity</b>					
<b>Substituted course</b>	None				
<b>Preclusive courses</b>	N/A				
<b>Prerequisite courses</b>	N/A				
<b>Informally recommended courses</b>	N/A				
<b>Courses depending on this Course</b>	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
<b>Total:</b>	<b>127</b>

## 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