

## Study Plan for Doctoral Study Program Transport Means and Infrastructure

(valid from 1. 10. 2022)

### Compulsory Courses

Dept./Course Abbreviation	Course	Number of lectures +consultations/ semester	Compl.	Recommended semester
KID/RAM11	<b>Applied Mathematics I</b> doc. Ing. Karel Greiner, Ph.D. prof. PhDr. RNDr. Zdeněk Půlpán, CSc.	36+0	Exam	1.
KID/RAM22	<b>Applied Mathematics II</b> doc. Ing. Karel Greiner, Ph.D. prof. PhDr. RNDr. Zdeněk Půlpán, CSc.	36+0	Exam	2.
KDPD/RMVP1	<b>Methods of Scientific Work</b> doc. Ing. Petr Voltr, Ph.D.	6+0	Exam	2.

### Compulsory Options (to choose 2 courses at least from subjects for the specialization)

Specialization	Dept./Course Abbreviation	Course	Number of lectures +consultations/ semester	Compl.	Recommended semester
Transport Means	KDPD/A4BJV	<b>Safety of Vehicle Operation</b> prof. Ing. Bohumil Culek, CSc.	20+0	Exam	4.
	KDPD/AIVC	<b>Vehicle–infrastructure Interaction</b> doc. Ing. Petr Voltr, Ph.D. doc. Ing. Jan Krmela, Ph.D.	24+0	Exam	4.
	KDPD/ASZTV	<b>Selected Areas of Vehicle Theory</b> doc. Ing. Petr Voltr, Ph.D. Ing. Jan Pokorný, Ph.D.	24+0	Exam	3.
	KMMCS/AAME	<b>Applied Mechanics</b> doc. Ing. Petr Tomek, Ph.D. Ing. Aleš Hába, Ph.D.	24+0	Exam	3.
	KMMCS/ANMT4	<b>Nonlinear Mechanics and Theory of Plasticity</b> doc. Ing. Petr Tomek, Ph.D.	24+0	Exam	4.
	KMMCS/AEAM3	<b>Experimental Analysis, Measurement Methods</b> prof. Ing. Bohumil Culek, Ph.D. prof. Ing. Jaroslav Menčík, CSc. Ing. Martin Kohout, Ph.D.	26+0	Exam	3.
	KMMCS/AMSM	<b>Limit States of Materials</b> prof. Ing. Eva Schmidová, Ph.D.	24+0	Exam	3.
	KMMCS/ASZ19	<b>Reliability and Lifetime</b> doc. Ing. Bohumil Culek, Ph.D. prof. Ing. Jaroslav Menčík, CSc. prof. Ing. Bohumil Culek, CSc.	24+0	Exam	3.
	KDPD/ADVPE	<b>Selected Issues of Ecology in Transport</b> doc. Ing. Michael Lata, Ph.D. doc. Ing. Marie Sejkorová, Ph.D.	24+0	Exam	4.

Specialization	Dept./Course Abbreviation	Course	Number of lectures +consultations/ semester	Compl.	Recommended semester
Electrotechnical and Electronic Systems in Transport	KEEZ/ATS19	<b>Traction Systems</b> doc. Ing. Stanislav Gregora, Ph.D.	20+0	Exam	2.
	KEEZ/AEK19	<b>Electromagnetic Compatibility</b> prof. Ing. Vladimír Schejbal, CSc.	20+0	Exam	2.
	KEEZ/A3REP	<b>Control of Electrical Drives</b> prof. Ing. Jaroslav Novák, CSc.	20+0	Exam	3.
	KEEZ/ABKRS	<b>The Safety-critical Control Systems in Transport</b> doc. Ing. Aleš Filip, CSc. Ing. Jan Ouředníček, Ph.D.	20+0	Exam	2.
	KEEZ/ATSPE	<b>Technical Systems for Electromobility</b> prof. Ing. Jaroslav Novák, CSc.	20+0	Exam	3.
	KMMCS/ASZ19	<b>Reliability and Lifetime</b> doc. Ing. Bohumil Culek, Ph.D. prof. Ing. Jaroslav Menčík, CSc. prof. Ing. Bohumil Culek, CSc.	24+0	Exam	3.
	KEEZ/ADCZS	<b>Digital Signal Processing</b> prof. Ing. Vladimír Schejbal, CSc. Ing. Dušan Čermák, Ph.D.	20+0	Exam	1.
	KEEZ/ADVEL	<b>Microwave Engineering</b> prof. Ing. Vladimír Schejbal, CSc. Ing. Dušan Čermák, Ph.D.	20+0	Exam	3.

Specialization	Dept./Course Abbreviation	Course	Number of lectures +consultations/ semester	Compl.	Recommended semester
Transport Structures	KDS/AMNDS	<b>Modern Methods of Designing Transport Constructions</b> doc. Ing. Ladislav Řoutil, Ph.D.	24+0	Exam	3.
	KDS/AMRDS	<b>Modernisation and Reconstruction of Transport Structures</b> doc. Ing. Ladislav Řoutil, Ph.D.	24+0	Exam	2.
	KDS/ADMS4	<b>Diagnostics of Bridge Constructions</b> doc. Ing. Bohumil Culek, Ph.D.	24+0	Exam	4.
	KDS/AMBK4	<b>Modelling of Concrete Structures</b> doc. Ing. Ladislav Řoutil, Ph.D.	24+0	Exam	4.
	KMMCS/AAME	<b>Applied Mechanics</b> doc. Ing. Petr Tomek, Ph.D. doc. Ing. Ladislav Řoutil, Ph.D.	24+0	Exam	3.
	KMMCS/ANMT4	<b>Nonlinear Mechanics and Theory of Plasticity</b> doc. Ing. Petr Tomek, Ph.D.	24+0	Exam	4.
	KDS/XEVSb	<b>Advanced concrete structures</b> doc. Ing. Ladislav Řoutil, Ph.D. Ing. Özgür Yurdakul, Ph.D.	26+0	Exam	3./4.
	KMMCS/AMSM	<b>Limit States of Materials</b> prof. Ing. Eva Schmidová, Ph.D.	24+0	Exam	3.
	KMMCS/ASZ19	<b>Reliability and Lifetime</b> doc. Ing. Bohumil Culek, Ph.D. prof. Ing. Jaroslav Menčík, CSc. prof. Ing. Bohumil Culek, CSc.	24+0	Exam	3.

Dept./Course Abbreviation	Course	Number of lectures +consultations/ semester	Compl.	Recommended semester
JC/DDADW	<b>English for Transport I - IV</b> Mgr. Yveta Linhartová, Ph.D.	0+24	Exam	1. + 2.
JC/---	<b>German for Transport I - IV</b> Mgr. Ilona Bourová	0+24	Exam	1. + 2.
JC/---	<b>Russian for Transport I - IV</b> Mgr. Radka Švadláková, Ph.D.	0+24	Exam	1. + 2.
KMMCS/APKM1	<b>Failure of Construction Materials</b> prof. Ing. Eva Schmidová, Ph.D. prof. Ing. Jaroslav Menčík, CSc. doc. Ing. Pavel Švanda, Ph.D. doc. Ing. Vladimír Doležel, CSc.	24+0	Exam	4.
KMMCS/ADTSK	<b>Thin-walled Shell Structures</b> doc. Ing. Petr Tomek, Ph.D.	26+0	Exam	3.
KMMCS/ADDRK	<b>Diagnostics and Quality Control</b> doc. Ing. Pavel Švanda, Ph.D. Ing. Jakub Vágner, Ph.D.	20+0	Exam	4.
KMMCS/ADSSV	<b>Special Road Vehicles and Superstructures of Vehicles</b> doc. Ing. Petr Tomek, Ph.D. doc. Ing. Pavel Švanda, Ph.D. doc. Ing. Miroslav Tesař, CSc.	24+0	Exam	4.
KDPD/ADVPE	<b>Selected Issues of Ecology in Transport</b> doc. Ing. Michael Lata, Ph.D. doc. Ing. Marie Sejkorová, Ph.D.	24+0	Exam	4.