Study plan

Name of study plan: TRELPASO nav.prez 11/12

Faculty/Institute/Others:
Department:
Branch of study guaranteed by the department: Welcome page
Garantor of the study branch:
Program of study: Technology in Transportation and Telecommunications
Type of study: Follow-up master full-time
Required credits: 50
Elective courses credits: 0
Sum of credits in the plan: 50
Note on the plan:

Name of the block: Semestrální projekt
Minimal number of credits of the block: 16
The role of the block: ZP

Code of the group: XNTR1 DP 1.S. 11/12
Name of the group: Dipl.práce ELPASO 1.sem.od 11/12
Requirement credits in the group: In this group you have to gain 6 credits
Requirement courses in the group: In this group you have to complete 1 course
Credits in the group: 6
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
17XNT1	**CTU Thesis 1**	Z	6	0+6	Z	ZP

Characteristics of the courses of this group of Study Plan: Code=XNTR1 DP 1.S. 11/12 Name=Dipl.práce ELPASO 1.sem.od 11/12

17XNT1	CTU Thesis 1	Z	6

Code of the group: XNTR2 DP 2.S. 11/12
Name of the group: Dipl.práce ELPASO 2.sem.od 11/12
Requirement credits in the group: In this group you have to gain 10 credits
Requirement courses in the group: In this group you have to complete 1 course
Credits in the group: 10
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
17XNT2	**CTU Thesis 2**	Z	10	0+10	L	ZP

Characteristics of the courses of this group of Study Plan: Code=XNTR2 DP 2.S. 11/12 Name=Dipl.práce ELPASO 2.sem.od 11/12

17XNT2	CTU Thesis 2	Z	10

Name of the block: Compulsory courses in the program
Minimal number of credits of the block: 34
The role of the block: P

Code of the group: 1.S.NPTRELPASO 11/12
Name of the group: 1.sem.nav.prez.TR ELPASO od 11/12
Requirement credits in the group: In this group you have to gain 19 credits
Requirement courses in the group: In this group you have to complete 6 courses

Credits in the group: 19
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
12TDP	**Traffic Flow Theory** *Vladimír Faltus*	Z,ZK	3	2P+1C	Z	P
17ILO	**Information Technology in Logistics**	Z,ZK	4	2+2	Z	P
17LGY	**Logistics Systems**	Z,ZK	6	3+2	Z	P
17PJM	**Project Management**	ZK	2	2+0	Z	P
11MME	**Mathematical Models in Economics**	KZ	2	1+1	Z	P
12DZP	**Transport and Environment**	Z	2	2P+0C	Z	P

Characteristics of the courses of this group of Study Plan: Code=1.S.NPTRELPASO 11/12 Name=1.sem.nav.prez.TR ELPASO od 11/12

12TDP	Traffic Flow Theory	Z,ZK	3

Mobility and associated human problems. Basic traffic parameters and their measurement. Estimation of quality of services. Theoretical fundamentals and applications of mathematical models. Macroscopic, statistical and microscopic models. Theory of shock waves, queuing theory and special theory of traffic phenomena. Relation between traffic models and traffic flow management.

17ILO	Information Technology in Logistics	Z,ZK	4

Basics of bar code technology. Basics of radiofrequency identification. Product numbering systems for intensive distribution. Packaging hierarchy and identification models in supply chain. Identification of trading partners in the supply chain. Basics of data communication in logistics. National and global multidisciplinary standards for electronic data interchange. ERP Systems used in retail and fast moving consumer goods.

17LGY	Logistics Systems	Z,ZK	6

Transport in logistics, intermodal transport, electronic toll systems in road transport, supply chain management, logistics partnership and alliances, logistic service of teritory, dangerous goods in logistics, management and marketing in logistics, identification systems in logistics, IT in logistic systems and transportation.

17PJM	Project Management	ZK	2

Project and planning, project content, management and project task organization. Technical and economical assessment criterions. Criterion function and its components. Organization and management of the project run.

11MME	Mathematical Models in Economics	KZ	2

Stochastic prosesses and their classification, Poisson process, birth and death process, queueing models and their classification, graph and related terminology, cycles in a graph and their detection, the shortest and longest way through a graph, critical parth through a graph, extreme of a function of many arguments, free and constrained extremum, Lagrange multipliers, numerical methods in optimization, linear programming and its application.

12DZP	Transport and Environment	Z	2

This course aims the impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands. The noise measury is part and parcel of this course.

Code of the group: 2.S.NPTRELPASO 11/12
Name of the group: 2.sem.nav.prez.TR ELPASO od 11/12
Requirement credits in the group: In this group you have to gain 15 credits
Requirement courses in the group: In this group you have to complete at least 4 courses
Credits in the group: 15
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
17INV	**Investments and Financing in Transport**	Z,ZK	4	3+1	L	P
20STL	**Satellite Technologies and Logistics**	Z,ZK	4	2+2	L	P
16TAJ	**Technological Aspects of Quality**	Z	2	2P+0C	L	P
17TTH	**Transport Theory**	Z,ZK	5	2+2	L	P

Characteristics of the courses of this group of Study Plan: Code=2.S.NPTRELPASO 11/12 Name=2.sem.nav.prez.TR ELPASO od 11/12

17INV	Investments and Financing in Transport	Z,ZK	4

Projects and project planning, project financing, financing models, PPP financing, selection procedure, EIA study, project assessment and its criterions, NPV, IRR. Optimal variant selection. Zone planning and decision making.

20STL	Satellite Technologies and Logistics	Z,ZK	4

Basic topics: GPS and Galileo navigation systems and their use for positioning the rail, air, sea, road and urban transport; GIS technology as a powerful tool for solving problems in logistics, appropriate telecommunication technologies and technologies for the identification and monitoring of goods; life cycle of satellite systems, satellite as the carrier of satellite systems functionalities and its technology.

16TAJ	Technological Aspects of Quality	Z	2

Certification and accreditation, quality management, standards of quality management and its application, quality system creation, tools and methods of quality improvement, conformity assurance, environmental certification, workplace certification, QMS integration, classification, certification of products and producers.

17TTH	Transport Theory	Z,ZK	5

Elements of theory of graphs. Minimum spanning tree, trees in graphs. Paths and cycles. Arc routing problems. Vehicle routing problems. Network flows. Location problems. Transportation elements. Transportation flows. Theory of displacement quality. Multicriterial decision making in transport processes.

List of courses of this pass:

Code	Name of the course	Completion	Credits
11MME	Mathematical Models in Economics	KZ	2
Stochastic prosesses and their classification, Poisson process, birth and death process, queueing models and their classification, graph and related terminology, cycles in a graph and their detection, the shortest and longest way through a graph, critical parth through a graph, extreme of a function of many arguments, free and constrained extremum, Lagrange multipliers, numerical methods in optimization, linear programming and its application.			
12DZP	Transport and Environment	Z	2
This course aims the impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands. The noise measury is part and parcel of this course.			
12TDP	Traffic Flow Theory	Z,ZK	3
Mobility and associated human problems. Basic traffic parameters and their measurement. Estimation of quality of services. Theoretical fundamentals and applications of mathematical models. Macroscopic, statistical and microscopic models. Theory of shock waves, queuing theory and special theory of traffic phenomena. Relation between traffic models and traffic flow management.			
16TAJ	Technological Aspects of Quality	Z	2
Certification and accreditation, quality management, standards of quality management and its application, quality system creation, tools and methods of quality improvement, conformity assurance, environmental certification, workplace certification, QMS integration, classification, certification of products and producers.			
17ILO	Information Technology in Logistics	Z,ZK	4
Basics of bar code technology. Basics of radiofrequency identification. Product numbering systems for intensive distribution. Packaging hierarchy and identification models in supply chain. Identification of trading partners in the supply chain. Basics of data communication in logistics. National and global multidisciplinary standards for electronic data interchange. ERP Systems used in retail and fast moving consumer goods.			
17INV	Investments and Financing in Transport	Z,ZK	4
Projects and project planning, project financing, financing models, PPP financing, selection procedure, EIA study, project assessment and its criterions, NPV, IRR. Optimal variant selection. Zone planning and decision making.			
17LGY	Logistics Systems	Z,ZK	6
Transport in logistics, intermodal transport, electronic toll systems in road transport, supply chain management, logistics partnership and alliances, logistic service of teritory, dangerous goods in logistics, management and marketing in logistics, identification systems in logistics, IT in logistic systems and transportation.			
17PJM	Project Management	ZK	2
Project and planning, project content, management and project task organization. Technical and economical assessment criterions. Criterion function and its components. Organization and management of the project run.			
17TTH	Transport Theory	Z,ZK	5
Elements of theory of graphs. Minimum spanning tree, trees in graphs. Paths and cycles. Arc routing problems. Vehicle routing problems. Network flows. Location problems. Transportation elements. Transportation flows. Theory of displacement quality. Multicriterial decision making in transport processes.			
17XNT1	CTU Thesis 1	Z	6
17XNT2	CTU Thesis 2	Z	10
20STL	Satellite Technologies and Logistics	Z,ZK	4
Basic topics: GPS and Galileo navigation systems and their use for positioning the rail, air, sea, road and urban transport; GIS technology as a powerful tool for solving problems in logistics, appropriate telecommunication technologies and technologies for the identification and monitoring of goods; life cycle of satellite systems, satellite as the carrier of satellite systems functionalities and its technology.			

For updated information see http://bilakniha.cvut.cz/en/FF.html
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