**“Transportation Economics and Demand Analysis ”**

**Syllabus SCA.02/2**

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Version 1

# Name of the course

**Transportation Economics and Demand Analysis**

# ECTS credits

6 Credits, **(45H Theory; 30H Exercises), 2nd semester**

In the process of education within this course, student obtains the knowledge related to the organisation, management, economics and operation of transport enterprises, capabilities to their application in terms of the enterprise providing transport services. Regarding successful passing of the course, student obtains skills to calculate the price for services provided on the basis of economically sound procedures. S/he will be able to analyse the costs in the enterprise according to their dependency on the performance of the enterprise made. Developing case studies, the student obtains competence how to calculate the price of performance in enterprises providing transport services.

# Objectives

The main objectives of this lecture are following:

* Characteristics of own costs, basic classification and relationships to the calculation of the cost. Fixed and variable costs.
* Critical point of profitability, its calculation, graphical representation and meaning. Cost and net principle of pricing (minimum and maximum limit of price for road transport). Maximising profits with pricing.
* Calculation system. Methods and types of calculations. Calculation of own costs and its importance, calculation units and calculation formulas.
* Method of calculation with the distribution of variable and fixed costs. Dynamic calculation of its own costs.
* Financing of public passenger transport in the Slovak Republic. Calculation of demonstrable loss. Price regulation of road transport in the Slovak Republic.
* Transport demand, factors affecting demand. The offer of transport, factors affecting the scope and quality of the services provided.
* Elasticity of demand and supply, cross-elasticity.
* Organisational structure, its meaning and the use in the transport organisation, most common types of organisational structures used in road transport organisations.
* Indicators of profitability and their ability to express. The ways how to increase profitability. Evaluation of economic efficiency of investments.
* Current assets - characteristics, structure, management of material, indicators of the efficiency of the stock. Stocks, costs associated with the stocks, stock optimisation, and method of legislation (Pila diagram).
* Labour productivity in transport, its measurement, indicators of productivity at work, and the possibility of its improvement.
* An overview of the standards of quality associated with transport.

# Learning outcomes

The general expectation regarding the knowledge to be provided/acquired is as follows:

* to analyze fixed and variable costs;
* to use the dynamic calculation;
* to use the elasticity of demand to dynamic calculation
* to design the organizational structure of the enterprise.

# Contents

# 1. Impact of Transport Policy on Economy of Road Transportation Enterprise

# 2. Own Costs and Their Division

# 2.1. Classification by Elements of Costs

# 2.2. Classification of Costs According to Purpose

# 2.3. Classification of Costs According to Place of Occurrence and Responsibility for their Occurrence

# 2.4. Calculating Classification of Costs

# 2.5. Classification of Costs according to Dependency on Volume of Performed Performances

# 2.5.1. Fixed Costs

# 2.5.2. Variable Costs (Flexible, Variable)

# 3. Calculations of Own Costs

# 3.1. Calculation System

# 3.2. The Method of Calculation with Classification of Costs to Variable and Fixed

# 3.2.1. Methods of Fixed Costs Calculation

# 3.3. Dynamic Calculation of Own Costs

# 3.4. Comparison of the “Current Practice“ in Calculation and Dynamic Calculation

# 3.5. Some Possibilities of Utilization of Dynamic Calculation Computer Model

# 4. Determination of Prices in the Road Transport

# 4.1. Costs Principle

# 4.2. Utility Principle

# 4.3. Price Limits in Transport

# 4.4. Price Regulation

# 4.5. Tariff Systems

# 4.5.1. Price Policy

# 4.5.2. Tariff in Regular National Bus Transport

# 4.5.3. Tariff System of Integrated Transport System

# 4.5.4. Tariff Types

# 4.5.5. Tariff Arrangement for Zone Tariff

# 4.6. Price Policy

# 4.7. Possibilities of Discounts Use

# 5. Human Resources and Wages

# 5.1. Legislative Requirements on Human Sources in the Companies of the Road and Urban Transport

# 5.1.1. Management of Road and Public Transportation Companies

# 5.1.2. Drivers of the Road Freight Transport and Bus Transport

# 5.2. Wages and Labour Market

# 5.2.1. General Level of Wages

# 5.2.2. Labour Offer

# 5.3. Wage Systems

# 5.4. Motivation of the Employees

# 5.5. Work Productivity in the Road and Urban Transport

# 6 Firm Organizational Structures

# 6.1 Types of Organizational Structures

# 6.1.1 Line Organizational Structures

# 6.1.2 Functional Organizational Structures

# 6.1.3 Divisional Organizational Structures

# 6.1.4 Line-and-Staff Organizational Structures

7. Analysis of production factors in road transport company

7.1. Transformation process and corporate production factors

7.2. Production factors of road transport company

7.3. Regularities of the transformation process of turning inputs into outputs in form of transport services.

7.3.1. Transport service as a product

7.3.2. Secondary character of the demand for road transport services

7.3.3. Irregularity of the demand for road transport services

7.3.4. Dependency of customers on road transport industry

7.3.5. Changes in the number, structure and distribution of population

# Teaching method

Lectures, case studies, tutorials/exercises

* The slides are available for the whole course. They are provided to students (or uploaded in the MOODLE system). The full contents of each slide is systematically explained by the Lecturer. Additional examples which are not included in the slides are proposed by the Lecturer to allow good understanding of the information provided.
* The slides contain exercises with solutions for the good understanding of the content of each chapter. These solutions are systematically explained (during the lecture) by the Lecturer.
* The slides contain also exercises without solutions. They should be solved by students during the lecture (this is part of oral exam). The students are fully assisted by the Lecturer in order to obtain correct/exact solutions to the proposed exercises. This should help to check whether the students have understood the chapters or not.
* Several exercises are proposed by the Lecturer to be solved by students as projects. This should help to test the self-learning potential of students.

# Assessment method

Mid-term and final oral and/or written examination, exercises from case studies.

# Textbooks - Publications - Software

**Textbooks**

* Gnap, J., Poliak, M., Konečný, V.: Economy of Road and Urban Transport.
* Konečný, V.: Methods of Economic Analysis and their Importance for Road Transport Company.
* Button K.: Transport economics. 3rd Edition. Edward Elgar. UK
* Cowie J., Ison S., Rye T., Riddington G.: The Economics of Transport. A theoretical and applied perspective
* McCarthy S. P.: Transportation Economics. Theory and Practice: A Case Study Approach
* Savy M., Burnham J.: Freight Transport and the Modern Economy
* Dolinayová A., Nedeliaková E., Brumerčíkova E.: Economic of Railway Transport