Information sheet for the course
Mathematics in solved exercises

University: *Alexander Dubček University of Trenčín*

Faculty: *Faculty of special technology*

Course unit code: *MŠT/B/4-04/d* | **Course unit title:** *Mathematics in solved exercises*

Type of course unit: *optional*

Planned types, learning activities and teaching methods:
Exercise 2 hours per week, face to face method

Number of credits: *1*

Recommended semester: *2st semester in the 1st year (full-time)*
2st semester in the 1st year (part-time)

Degree of study: *I. (bachelor)*

Course prerequisites: *none*

Assessment methods:
80% participation in exercises, fulfilling the objectives set exercises Term paper, demonstrate knowledge of subject content in written and oral examination - credit.

Learning outcomes of the course unit:
Addition knowledge in accordance with the subject of Mathematics II deepening knowledge of the chapters of higher mathematics and especially in the differential and integral calculus, functions of several variables, differential equations.

Course contents:
Primitive function and base formula. Integrating the substitution method and by parts. Integrating partial fractions. Integration of rational functions. Integration of irrational functions. Integration of trigonometric functions. Definite integral. Half-integral. Application of definite integral. Calculation of planar area. Calculate the volume of the solid of revolution. Calculate the length of the curve. The domain functions of several variables. Partial derivatives of first order function of several variables. Total differential and its use. Partial derivatives of composite functions. Partial derivatives of higher order. Extrema of functions of several variables. Differential Equations. Differential equations with separable and separable variables. Homogeneous differential equations. Linear differential equations of first order. Bernoulli differential equations. Linear differential equations II, and higher order with constant coefficients. The system of differential equations.

Recommended of required reading:
IVAN, J.: Matematika I, Bratislava 1983
ELIAŠ, J.- HORVÁTH, J.- KAJAN, J.: Zbierka úloh z vyššej matematiky, časť I. (6.vyd.1985), časť II. (6.vyd.1985), časť III. (3.vyd.1980), Bratislava.
PURCZ,P.- RÉVAYOVÁ,M.: Matematika II. Zbierka úloh. TU Košice. Stavebná fakulta. 2006. 87 s. ISBN 80-8073-652-9.
KALINA, M.: Matematika. STU Bratislava, 2012. 297 s. ISBN 978-80-227-3655-8. Dostupné na: www.svf.stuba.sk

Language: *Slovak*

Remarks:
Subject is provided in the summer semester v1. year of full-time study. The course is elective

Evaluation history
Total number of students being evaluated: 6

A	B	C	D	E	FX
16,67	0	0	0	0	83,33

Lecturers: *Ing. Lenka Rybičková, PhD.*
Last modification: *15.4.2014*
Supervisor: *Assoc. Ing. Peter Lipták, PhD. guarantee of the study program "Mechanisms in Special Technology*