Information sheet for the course
Mathematics II

University: *Alexander Dubček University of Trenčín*

Faculty: *Faculty of special technology*

Course unit code: *ŠST/B/4-02/d* | **Course unit title:** *Mathematics II*

Type of course unit: *compulsory*

Planned types, learning activities and teaching methods:
3 hours of lectures per week

Number of credits: *7*

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

Degree of study: *I.*

Course prerequisites: *ŠST/B/4-01/d Mathematics I*

Assessment methods:
100% participation in exercises, fulfilling the objectives set exercises, min. 60% attendance at lectures, special credit písomiek and achieve at least 60% of the total score, demonstrate knowledge of subject content in written and oral examination. Final assessment: test in a written test. Of the 100 points is required to evaluate the minimum min .: obtain (E) - 56 points, (D) - 67 points (C) - 77 points (B) - 87 points (A) - 95 points.

Learning outcomes of the course unit:
The student has a deep knowledge of the cross and integral calculus, methods to solve indefinite integrals, definite integrals, applications of definite integrals, functions of several variables, domain functions of two and three variables, local extrema of functions of several variables, the types and solutions of differential equations and systems.

Course contents:
The definition of indefinite integral. 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. The definition and properties. Half-integral. Application of definite integral. Calculation of planar area. Calculate the volume of the solid of revolution. Calculate the length of the curve. Differential calculus of functions of several variables. 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. Basic terms, 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:
The subject is provided in the summer semester in the first year of full-time study. Subject is required

Evaluation history
Total number of students being evaluated: 333

A	B	C	D	E	FX
5,41	4,2	12,61	17,12	51,05	9,61

Lecturers: *Assoc. Mgr. Daniela Hricišáková, PhD. - lecturer*
Ing. Lenka Rybičková, PhD. - lecturer, instructor

Last modification: *15.4.2014*

Supervisor: *prof. Ing. Jiří Balla, CSc.*, *guarantee of the study program "Special Mechanical Engineering Technology".*