Mathematics II

This course is intended for foreign students studying at our faculty and domestic students who registered it. Conditions and requirements of this course are identical to the course in Czech and governed by the same rules.

Content:

Functions of several variables - domain, limit, continuity, partial derivatives, extremes, implicit function Multiple integrals - double and triple integral, Fubini's theorem, applications Line integral, surface integral, Gauss theorem, potential.

- Requests for exams of Mathematics II in academic year 2015/16

Lecturers

prof. RNDr. Gejza Dohnal, CSc., Office: KN:B-205

- lectures: Monday, 2:15 - 3:45 p.m. and 4:00 - 5:30 p.m.

RNDr. Tomáš Neustupa, Ph.D., Office: KN:B-214

- lectures: Tuesday, 2:15 - 3:45 p.m. and Friday 9:00 - 9:30 a.m.

Literature:

- Neustupa, J., Kračmar S.: Mathematics II, CTU Publishing House, Prague, 1996,
- Finney, R. L., Thomas, G.B.: Calculus, Addison-Wesley, New York, Ontario, Sydney, 1994

Examples:

The *Collection of examples from Mathematics II* written in Czech by authors E. Brožíková, M. Kittlerová and F. Mráz (2016) contains both examples and their solutions. Here you find several parts translated in English. The examples in English have the same numbering but they are without solutions (corresponding solution you can find in the Czech version, which is in the brackets). English translations will be added gradually. By the star (*) are denoted the examples, which go beyond the requirements of the exam this year.

- Riemann integral [Určitý integrál]
- Calculus - part 1 (partial derivatives, ...) [Diferenciální počet-část 1]
- Calculus - part 2 (gradient, diferential, directional derivative, etc.) [Diferenciální počet-část 2]
- Implicit Functions [Implicitní funkce]
- Extrema [Extrémy]
- Double integral [Dvojný integrál]
- Triple integral [Trojný integrál]

- Line integral [Křivkový integrál]
- Surface integral [Plošný integrál]
- DIvergence theorem [Gaussova-Ostrogradského věta]

Web additional sources:

- Paul's Online Math Notes have gotten the notes/tutorials for Algebra, Calculus I, Calculus II, Calculus III and Differential Equations class online.
- Just Math Tutoring is a web site of Patrick from Vanderbilt University, who provide clear and thorough explanations, and to present them in an environment in which the student is comfortable.
- The Math Insight web site is a collection of pages and applets designed to shed light on concepts underlying a few topics in mathematics (see Index)
- Mathispoewr4u tutorials. This site provides over 3,500 free mini-lessons and example videos with no ads. The videos are organized by course and topic.

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Last update: **2025/06/02 19:23**