Week: February 22 – February 28, 2021
Topic: **Functions of multiple variables**

The below provided instructions should guide you through studying the topic. For additional explanation, clarification and extra material contact the Lecture/Tutorial teacher by email or the MS-Teams platform for live online consultation (see webpage for the link).
https://mat.nipax.cz/mathematics:mathematics_ii

This week we will start again with domain and range of functions of multiple variables. Then we will introduce their limits and continuity. In the second lecture we will define the notion of partial derivative and explain its geometrical meaning. Finally we will speak about some theoretical aspects of differentiabilty and differential of functions.

1) Read and learn the explanation from the textbook. Scanned pages can be found on the web page.
https://mat.nipax.cz/_media/mathematics:pages_01-23.pdf
Some of this material is for this week some for the next one.

Additional material and alternative explanation with many figures and exercises can be found in (free) online available textbooks
http://www.math.wisc.edu/~keisler/calc.html
namely chapter 11 http://www.math.wisc.edu/~keisler/chapter_11.pdf

https://openstax.org/details/books/calculus-volume-3
namely chapter 4 https://openstax.org/books/calculus-volume-3/pages/4-introduction

2) Take a look at the solved exercises from our collection of examples
questions: https://mat.nipax.cz/_media/calculus1.pdf
complete solutions (in Czech): https://mat.nipax.cz/_media/definicni_obory.pdf

3) As a training solve (at least) the following exercises.
55, 56 – limits
77, 83, 86, 89 – partial derivatives

4) As a long term homework, to be delivered at specified deadline, solve all the corresponding exercises from sample exams from our webpage
https://mat.nipax.cz/_media/mathematics:ma2_exam_1n_en.pdf
https://mat.nipax.cz/_media/mathematics:ma2_exam_2n_en.pdf
https://mat.nipax.cz/_media/mathematics:ma2_exam_3n_en.pdf

***The delivery of all sample exams, completely and correctly solved (by yourself)
is necessary (but not sufficient) condition for obtaining the assessment from tutorials.***