

DESCRIPTION AND SYLLABUS

Name of the subject in Hungarian:	Calculus for Business and Economics (PFS)
Name of the subject in English:	Calculus for Business and Economics (PFS)
Credit value of the subject:	10
The code of the subject in the electronic study system:	BN-CABUEC-10-GY
Classification of the subject:	Obligatory
Language of instruction (in case of non-Hungarian courses):	English
Institute or department responsible for the subject:	Institute of Methodology
Course type and number of contact hours:	Practical, class per week: 6, class per semester: 0
Mode of study: (Full-time / Part-time):	Full-time training
The semester in which the subject is open for registration:	2022/2023 1st semester
Prerequisite(s):	-

THE PURPOSE OF THE SUBJECT, LEARNING OUTCOMES:

The main purpose of this course is to prepare the students for calculus and statistics courses by the repetition of previous mathematics studies.

The main result of the course is that the students can understand the basic notions in Mathematics and apply them in simple economic situations.

The students need to manage the Geogebra program under the study of functions.

SUMMARY OF THE CONTENT OF THE SUBJECT

The core of content is the study of the main parts of Calculus which are useful in order to solve basic economical problems. The main topics to be covered are the follows: functions, solving equations and system of equations, and in addition we are dealing with the interests and the basic parts of Statistics and Probability Theory.

STUDENT'S TASKS AND PLANNED LEARNING ACTIVITIES:

At the beginning of the seminars the students answer the teacher's introductory questions about the actual notions and methods in order to warming up. At the end of the lessons they can response to the most difficult points of the actual topics. During the seminars the students are active members of the class and they are involved in individual and team work. During the course they solve the tasks by the application of the proper methods in Mathematics such us equations or functions. After some team works one student of the team shows the solution of the task in front of the group.

EVALUATION OF THE SUBJECT:

Assessment for teaching programme will be based on classroom work and two test-papers.

Mid-term tests: $2 \times 25\% = 50\%$, class contribution: 10%; homework exercises: 40%.

The final result consist of the points from the whole work by the following way:

- 0-49 pts fail (1)
- 50-62 pts pass (2)
- 63-75 pts satisfactory (3)
- 76-88 pts good (4)
- 89-100 pts excellent (5)

If a student earns a high level result at the end of the semester she or he may get at the end of the semester a good evaluation in written form which could be part of her/his portfolio.

OBLIGATORY READING LIST:

- Stewart James: *Precalculus : mathematics for calculus*. Brooks/Cole Cengage Learning, cop. 2012
- Weir, Maurice D.: *Thomas' calculus*. Pearson Addison Wesley, 2008

RECOMMENDED READING LIST:

- Jacques, Ian,: *Mathematics for economics and business*. Pearson Education, 2018
- Pemberton, Malcolm: *Mathematics for economists : an introductory textbook*. Manchester University Press, 2007