

<b>Course title:</b> Introduction to Mathematics		<b>Credits* 5</b>	<b>Course code -</b>
<b>Type of the course</b>		<b>Assessment:</b>	
Lecture		Examination x	
Seminar	x	Performance-based grade	
Practice		Approval	
<b>Semester</b> (according to the standard curriculum): 1 or 2			
<b>Course availability</b> (according to the standard curriculum): autumn or Summer			
<b>Language of instruction</b> (if not in Hungarian): English			
<b>Prerequisites</b> (according to the standard curriculum): -			
<b>Type of the course</b> (compulsory, obligatory elective, free elective): compulsory			
<b>Course schedule:</b> <a href="http://www.kodolanyi.hu/neptun/">http://www.kodolanyi.hu/neptun/</a>			
<b>Course objectives:</b>			
<p>In this course student learn about the elementary functions which are used in economic and financial studies. The properties of these functions are very important to understand the statistic methods.</p> <p>The text of the exercises is closely related to economic and financial studies.</p> <p>Great emphasis is placed on higher mathematical function analysis methods, especially differential calculation.</p> <p>The students are introduced to the applications of mathematic softwares to illustrate and solve financial and economic exercises (excel, geogebra).</p>			
<b>Course Outcomes:</b>			
<b>Knowledge:</b>			
1.3. There is an expectation that degree programme should provide a broad, analytical and highly integrated study of business and management, its comprehensive terms, concerning national and international economics, relevant actors, functions and processes.			
1.4. Graduates are familiar with micro-and macro-level theories and practices, and engaged in basic information gathering, mathematical and statistical analyse methods.			
1.5. Graduates should be able to demonstrate relevant knowledge and understanding of organisations, the business environment in which they operate. Programmes are to put the emphasise on understanding, responding and shaping the dynamic and changing nature of business and the consideration of the future of organisations within the global business environment, including the management of risk.			
<b>Skills</b>			
2.2. It is capable for making decision preparatory reports and drawing decisions by using different theories, tools in routine and non-routine environment.			
2.3. Graduates are capable to understand, analyse and adapt to relevant international business processes, functional policies, monitor changing law environment.			
2.4. Graduates are capable to understanding impacts on economic processes and organisational changes.			
<b>Attitudes</b>			
3.2. Problem solving and critical analysis: analysing facts and circumstances to determine the cause of a problem, and identifying and selecting appropriate solutions.			
3.3. Research: the ability to analyse and evaluate a range of business data, sources of information and appropriate methodologies, which include the need for strong digital literacy,			

and to use that research for evidence-based decision-making.

3.6. Numeracy: the use of quantitative skills to manipulate data, evaluate, estimate and to model business problems, functions and phenomena.

### ***Generic competencies***

4.2. Ability to work with people from a range of cultures

4.5. Conceptual and critical thinking, analysis, synthesis and evaluation.

4.6. Self-management: a readiness to accept responsibility and flexibility, to be resilient, self-starting and appropriately assertive, to plan, organise and manage time.

### ***Foreign language competences***

Students can function independently and with a great deal of precision on a wide variety of subjects and in almost any setting without any prior preparation.

1. Can understand a wide range of demanding, longer texts, and recognize implicit meaning.
2. Can express ideas fluently and spontaneously without much obvious searching for expressions.
3. Can use language flexibly and effectively for social, academic and professional purposes.
4. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organizational patterns, connectors and cohesive devices.

### **Teaching methods:**

Lectures and personalized seminar, computer assisted problem solving

### **Requirements** (exam's evaluation criteria and list of topics):

Students should be able to understand and use the general mathematic methods and apply them to socio-economic tasks. Understand the metrics and the relationships based on the calculations and give written and verbal interpretation of the results. Apply mathematic computer programs to capture outputs.

Written tests from each lesson.

To pass the course minimum 50% of total result is needed.

### **Assessment & Grading:**

Insufficient

Student can not apply mathematic formulas or distinguish between certain types of problems.

Written answer is unordered, incoherent, formulas and methods are incomplete or inappropriate.

Pass

Student's knowledge is sufficient to describe the learned concepts. He/she finds the right mathematic method, can solve simple tasks but is not able to handle and interpret complex problems.

Satisfactory

Student is able to use most of the material acquired, understands the content behind the individual concepts, has a good example solving skills of the learned / understood themes.

However, the presentation of the results is less smooth, the interpretation of the tasks is incomplete or defective.

Good

Problem and situation analysis is good, it recognizes and uses the mathematic tools that can be used to solve a given topic or task. But the analysis of the solved task, the textual evaluation shows weaknesses, the practical application is not error-free.

Excellent:

Student gives a high level of theoretical knowledge, is able to solve the problems and tasks correctly, to understand relationships, and to explain the results and analyzes. Written professional communication is perfect.

**Department/faculty responsible for the course: Department of International Interdisciplinary Studies**

Department of Economics and Management

**Required average students' working hours** (number of credits multiplied by 30): 150

**Individual assignments** (expected number of hours and list of activities):

30 hours: attendance at courses

30 hours: reading and understanding mathematic literature, resolving of course's exercises

90 hours: exercise solving

**Course leader: Gizella Kontó**

**Lecturers: Iona Szabó**