



# **TANTÁRGYI ADATLAP SUBJECT DATASHEET**

## **GAME THEORY IN THE SOCIAL SCIENCES**

**BMEGT431485**

# I. COURSE DESCRIPTION

## 1. SUBJECT DATA

### Course name

GAME THEORY IN THE SOCIAL SCIENCES

### Course code

BMEGT431485

Course type class

### Kurzustípusok és óraszámok

<u>Type</u>	<u>Lessons</u>	<u>Type of assessment</u>	<u>Number of credits</u>
Lecture	2	exam	
Practice	0		
Laboratory	0		2

### Course leader

<u>Name</u>	<u>Position</u>	<u>Email address</u>
Dr. Szakadát István	associate professor	szakadat.istvan@gtk.bme.hu

### Organizational unit for the subject

Department of Sociology and Communication

### Subject website

<https://edu.gtk.bme.hu>

### Language of teaching

magyar - HU

### Curriculum role of the subject, recommended semester

Programme: Szabadon választható tárgyak

Subject Role: Szabadon választható

Recommended semester: 0

---

### Pre-requisites

*strong* Nincs

*weak* Nincs

*paralell* Nincs

*exclusive* Nincs

### 1.13 A tantárgyleírás érvényessége / Validity of the Subject Description

Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 580251/13/2023 registration number. Valid from: 29.03.2023.

Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 580251/13/2023 registration number. Valid from: 29.03.2023.

## 2. OBJECTIVES AND LEARNING OUTCOMES

### Objectives

The aim of the subject is to introduce students key concepts of strategic thinking, and the models within Social Sciences that are built on these concepts. The course focuses on the practical use of theory.

### Learning outcomes

#### Knowledge

1. Knows the concepts, the most important relationships and theories necessary to describe the regularities of actions that can be described by game theory;
2. knows and understands the most important features of interdependent social relations
3. knows the larger application areas of game theory, sees the connections between them.

#### Ability

1. Able to plan, organize and carry out independent study,
2. able to understand and use typical literature and library resources on topics related to game theory and strategic thinking,
3. is able to recognize the typical social situations analyzed by game theory in everyday life and utilize what he/she has learned in theory in practice, she/he is able to use her/his creativity.

#### Attitude

1. Open to learning and accepting new information continuously produced by game theory;
2. cooperates with the instructor and fellow students during the expansion of knowledge,
3. expands her/his knowledge through continuous knowledge acquisition, is open to the use of information technology tools.

#### Autonomy and responsibility

1. Openly accepts well-founded critical comments,
2. in some situations - as part of a team – she/he cooperates with her/his fellow students in solving tasks
3. in her/his thinking, she/he uses a game theory approach to the interpretation of social phenomena.

### Methodology of teaching

Lectures, game theory exercises.

### Materials supporting learning

- Tankönyvek, jegyzetek, letölthető anyagok – Books, notes, downloadable materials

## II. SUBJECT REQUIREMENTS

### TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

#### **General Rules**

The assessment of the learning outcomes formulated in point 2.2 takes place in the form of a midterm test. 70% participation on the lessons is required for the signature.

#### **Performance evaluation methods**

Detailed description of the performance evaluations carried out during the term: 1. Performance assessment: precision and content are evaluated in the test.

#### **Proportion of performance evaluations performed during the diligence period in the rating**

- performance assessment: 100

#### **Proportion of examination elements in the rating**

- :

#### **The condition for obtaining the signature, validity of the signature**

Aktív részvétel az órákon

#### **Grading**

Excellent	100
Very good	90–94
Good	80–89
Satisfactory	60–79
Pass	50–59
Fail	< 50

#### **Correction and retake**

Retake and make-up test options are defined by the valid regulations of the University's Code on Education and Examination.

#### **Study work required to complete the course**

classes	28
preparation for classes	12
preparation for assessment	20
total	60

#### **Approval and validity of subject requirements**

# III. COURSE CURRICULUM

## THEMATIC UNITS AND FURTHER DETAILS

### Topics discussed during the semester

1) Bevezetés, Játékok két játékosal: Játékok normál alakban. 2) Bevezetés, Játékok két játékosal: Játékok normál alakban. 3) Játékok két játékosal: Szekvenciális játékok. 4) Nem kooperatív játékok normál alakban, Nash tétele. 5) A játékok extenzív formája. 6) Információ függvény. 7) Ismételt játékok. 8) Kooperatív játékok átvihető nyereménnyel. 9) Kooperatív játékok átvihető nyereménnyel. 10) Shapley érték. 11) Gazdasági játékok. 12) Gazdasági játékok. 13) Gyakorló óra. 14) Zh

### Lecturers participating in teaching

Dr. Mészáros József

### Approval and validity of subject requirements