SUBJECT DATASHEET

Methods of regional and environmental analysis

BMEGT42M103

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
Methods of regional and environmental analysis

ID (subject code)	BMEGT42M103

Type of subject
contact lessons

Course types and lessons

Type	*Lessons*
Lecture	2
Practice	0
Laboratory	0

Type of assessment
Mid-term grade

Number of credits
3

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Buzási Attila	associate professor	buzasi.attila@gtk.bme.hu

Educational organisational unit for the subject
Department of Environmental Economics and Sustainability

Subject website
https://edu.gtk.bme.hu

Language of the subject
magyar - HU, angol - EN

Curricular role of the subject, recommended number of terms
Programme: **Regional and Environmental Economic Studies MSc (in English) from 2019/20/Term 1**
Subject Role: **Compulsory**
Recommended semester: **2**

Programme: **Regional and Environmental Economics from 2016/17/Term 1, SPRING start**
Subject Role: **Compulsory**
Recommended semester: **1**

Direct prerequisites

Strong	None
Weak	None
Parallel	None
Exclusion	None

Validity of the Subject Description
Approved by the Faculty Board of Faculty of Economic and Social Sciences, Decree No: 580005/7/2022. Valid from: 26.01.2022.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The main aim of the course is to provide knowledge about spatial and environmental analysis and modelling skills, moreover to involve the students in solving comprehensive challenges from practice-oriented perspective.

Academic results

Knowledge

1. The student has a knowledge about sources and database of spatial analyses;
2. The student understands the different sustainability challenges on various spatial levels and she/he can define the adequate responses;
3. The student has a knowledge about regional inequality indices;
4. The student has a knowledge of principles regarding environmental modelling;
5. The student has a knowledge of the soft-computing analysis methods.

Skills

1. The student is able to assess sustainability-related challenges;
2. The student is able to apply statistical methods;
3. The student is able to apply thematic mapping regarding social and environmental processes;
4. The student is able to define and select the best method based on the analysis framework;
5. The student is able to interpret the above-mentioned issues in a non-professional environment.

Attitude

1. The students collaborate/cooperate with the lecturer and fellow students on acquiring knowledge;
2. The students expand their knowledge by continuous learning;
3. The students are open to use IT solutions;
4. The students strive to understand complex issues;
5. The students strive to understand the nature and problems associated with environmental and natural resources in the interest of securing the commonwealth of society;

Independence and responsibility

1. The students are able to work individually in the field of local and regional economic development;
2. The students are open to critical feedbacks;
3. The students are able to perform tasks individually and with responsibility as a member of a project team;
4. The students are able to apply system-oriented thinking.

Teaching methodology

Lectures, problem discussions and case studies. Oral and written communication, use of IT, optional individual and group assignments and planning.

Materials supporting learning

- Nemes Nagy J. (szerk) 2005: Regionális elemzési módszerek. – Regionális Tudományi Tanulmányok, 11. ELTE Regionális Földrajzi Tanszék – MTA–ELTE Regionális Tudományi Kutatócsoport, Budapest 284 p.– http://geogr.elte.hu/ref/REF_Kiadvanyok/REF_RTT_11/RTT-11-tartalom.htm
- ELEK I. (szerk.) (2007): Térinformatikai gyakorlatok. – ELTE Eötvös Kiadó, Budapest 560 p.
- Előadásanyagok diasorai.

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

Assessment of the learning outcomes described under 2.2. is based on two written tests.

Performance assessment methods

A. During the semester: 1. Two written assignments must be completed. These will assess the basic knowledge of students and serve as a check of the understanding of basic concepts, terms, and relationships.

Percentage of performance assessments, conducted during the study period, within the rating

- **1st summative assessment**: 50%
- **2nd summative assessment**: 50%
- **Total**: 100%

Percentage of exam elements within the rating

- **-**: -

Conditions for obtaining a signature, validity of the signature

-

Issuing grades

Excellent	90 <
Very good	85–90
Good	72,5–85
Satisfactory	65–72,5
Pass	40–65
Fail	< 40

Retake and late completion

1) All of the written summative assessments may be retaken as per the relevant by-laws on performance assessment and examination. 2) A
second retake opportunity will be provided upon payment of a fee.

Coursework required for the completion of the subject

attending the lectures	14x3=42
preparing home assignments	10
preparing for written assignments	3x10=30
self-reading of recommended materials	8
total	90

Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by the Vice Dean for Education, valid from: 10.01.2022.

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

Subject includes the topics detailed in the course syllabus to ensure learning outcomes listed under 2.2. can be achieved. Timing of the topics may be affected by calendar or other circumstances in each semester.

1 Sources and datasets of spatial analyses. Regional level, data types, datasets.

2 Evaluation of regional inequalities. Values regarding spatial polarization.

3 Scatter-based spatial inequality indices. Spatial distribution-related inequality indices.

4 Complex methods of spatial inequalities. Analyisis of geographical interrelations.

5 Mapping methods. Basics of thematic mapping.

6 Spatial datasets in mapping methods. Georeferrencing.

7 Complex sustainability analyses.

8 Climate vulnerability analyses.

9 QGIS methods regarding complex sustainability and vulnerability analyses.

Additional lecturers

Dr. Jakobi Ákos egyetemi docens - associate professor jakobi.akos@ttk.elte.hu

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