

SUBJECT DATASHEET

GEOINFORMATICS

BMEEOFTM041

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I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name

GEOINFORMATICS

ID (subject code) BMEEOFTM041

Type of subject

Contact lessons

Course types and lessonsType of
assessmentTypeLessonsassessmentLecture2mid-term
gradePractice0Number of

Laboratory 1 <u>redits</u>

4

Subject Coordinator

Name Position Contact details

Dr. Szabó György associate professor szabo.gyorgy@emk.bme.hu

Educational organisational unit for the subject

External department

Subject website

https://edu.gtk.bme.hu

Language of the subject

magyar, angol - HU, 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: 1

Programme: Regional and Environmental Economics from 2016/17/Term 1, AUTUMN start

Subject Role: Compulsory Recommended semester: 1

Programme: Regional and Environmental Economics from the 2011/12 academic year AUTUMN start

Subject Role: Compulsory Recommended semester: 2

Programme: Regional and Environmental Economics from the 2011/12 academic year 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 the Faculty of Economic and Social Sciences, Valid from September 1, 2019

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2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The objectives for this course include both content and skills of geoinformatics to modeling and analysis of the natural and built phenomena of the environment. Upon completion of this course, students will understand the structure of and be able to design and execute basic GIS analysis projects. In practice, students will be able to collect and assess location based geographic data, organize and store that data, perform basic analysis functions on that data and design effective models to represent built-up and natural environmental phenomena. The course will cover the whole GIS production process from data acquisition to editing, analysis, and visualiza-tion. The course itself is divided into two equally important parts: lectures, which introduce the theory of geoin-formatics, and lab exercises, which help you to familiarize yourself with many aspects of the standardizes GIS software environment. The lectures discuss concepts, data, tools, and major aspects of assignments. The labora-tory sessions introduce the geospatial data and software tools needed for accomplishing the assignments.

Academic results

Knowledge

- 1. knows the elements of geoinformatics theory,
- 2. the key principles of location based environmental analysis,
- 3. knows the procedures on location based intelligence and the ways of their description,
- 4. knows the basic steps of digital representation of built-up and natural environment,
- 5. knows the basic spatial data capturing, spatial analysis and visualization technic,

Skills

- 1. create the structural model of our urban and rural environment,
- 2. definie spatial indicators to analyze the complex interaction between the nature, in-frastructure, socity and culture,

Attitude

- 1. open to use geospatial tools,
- 2. makes effort to perform relevant decision support analysis.

Independence and responsibility

- 1. individually capable of modelling space related phenomena and realizing the dependencies,
- 2. individually capable of performing basic spatial analysis,
- 3. individually capable of using heterogeneous spatial data bases,
- 4. uses systematized thinking approach.

Teaching methodology

Lectures and written communication, use of ICT tools and techniques. In-class discussions, calculations and analyses.

Materials supporting learning

- Az előadások prezentációinak anyaga, amely a megfelelő időpontban a hallgatók által hozzáférhetővé válik.
- Slideshows of the lectures which will distributed at appropriate times throughout the semester.
- Az aktuális irodalmi lista az első órán kerül ismertetésre.
- The current literature list will be distributed in the first lesson.

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

Assessment of the learning outcomes described under 2.2. shall be based on mid-term grading.

Performance assessment methods

Detailed description of assessments during the term: Students shall submit three lab assignments and one complex project reflecting their knowledge and skills.

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

Lab practice: 30%written assignment: 70%

• total: 100%

Percentage of exam elements within the rating

Conditions for obtaining a signature, validity of the signature

Issuing grades

Excellent	90-100
Very good	80-89
Good	70-79
Satisfactory	60-69
Pass	50-59
Fail	< 50

Retake and late completion

Retakes and make-ups are regulated by the university's Code on Education and Examination. (1) Of the three lab assessments, cannot be retake. (2) These may be made up for or improved on one count, during the make up period. In case of re-submission or late submission.

the new score will overwrite any previous scores obtained. (3) Should the student fail to obtain a passing grade as specified in (2), they may once again re-submit one written assignment, which will be evaluated for a fee.

Coursework required for the completion of the subject

42

68

10

120

Approval and validity of subject requirements

Consulted with the Faculty Student Representative Committee, approved by dr. Lógó Emma, Vice Dean for Education. Valid from September

1, 2019.

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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.

Additional lecturers

Mostafizur Rahman PhD hallgató - PhD Student

Approval and validity of subject requirements

Part I-III of the Subject Form is to be approved by the Head of Department named under 1.8.

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