I. Subject Specification

1. Basic Data

1.1 Title

RIVER BASIN MANAGEMENT

1.2 Code

BMEEOVVA-F2

1.3 *Type*

Module with associated contact hours

1.4 Contact hours

Туре	Hours/week / (days)
Lecture	2

1.5 Evaluation

Exam

1.6 Credits

3

1.7 Coordinator

name	Dr. Krisztián Homoródi
academic rank	Assistant professor
email	homorodi.krisztian@emk.bme.hu

1.8 Department

Department of Hydraulic and Water Resources Engineering

1.9 Website

https://epito.bme.hu/BMEEOVVA-F2

https://edu.epito.bme.hu/course/view.php?id=3602

1.10 Language of instruction

hungarian and english

1.11 Curriculum requirements

Compulsory in the Specialization in Infrastructure Engineering (BSc) programme

1.12 Prerequisites

Required previous subjects (need to be completed to register)

• Water Quality Management (BMEEOVKAI44)

Subjects from which previous midterm signature are required to register

• Water Resources Management (BMEEOVVAI43)

1.13 Effective date

1 September 2023

2. Objectives and learning outcomes

2.1 Objectives

The objective of the course is to introduce students to the basic concepts and principles of river basin management. The students will learn about the methods of river basin management planning, the main goals and principles of the Water Framework Directive (WFD) of the European Union (EU) and the relationship between water management tasks. Students will know the basis of integrated water management planning.

2.2 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

- 1. Know the basic concepts of river basin management.
- 2. Know the most important trends of river basin management.
- 3. Know the water policy of the EU and the basis of the river basin management based on the WFD.
- 4. Know the methods of river basin exploration and survey and also the most important available source materials.
- 5. Know the most important water management tasks in Hungary.

B. Skills

- 1. Can describe and evaluate a water body based on source materials and own experiences.
- 2. Can determine the key problems of a body of water and can describe his/her opinion about its solution.

C. Attitudes

1. Open to the use of information technology to find up-to-date guidelines.

D. Autonomy and Responsibility

- 1. Individually apply in practice the guidelines and the codes of good practice.
- 2. Open to accept critical comments.
- 3. Employs a system-theory approach.

2.3 Methods

Lectures, written and oral communications, application of IT tools and techniques for the study materials available on the internet, and assignments solved individually.

2.4 Course outline

Week	Topics of lectures and/or exercise classes
1.	Introduction of the subject and the homework.
	Basic concepts of river basin management. Types of
	river basins. Hungarian and European river basins.
	Hungary's water system. Structure of the water sector in
	Hungary
2.	River basin exploration and survey: content, method,
	field and site inspection, its purpose, preparation,
	conduct, mistakes to avoid.
3.	Characterisation of river basins using geoinformatics
	tools 1
4.	Characterisation of river basins using geoinformatics

	1
	tools 2
5.	Preparing a field trip with students ("off-site"
	lecture/field exercise).
6.	Preparing a poster: principles, suggestions, ideas
7.	River basin management plans based on the Water
	Framework Directive (WFD) of the EU. River basin
	management plan of River Danube.
8.	The relationship between WFD and other water
	management activities and tasks (e.g. flood and inland
	water protection, fisheries, navigation, hydropower
	utilisation).
9.	Basics of integrated water management
10.	Environmental planning (WFD 4.7 test, Natura 2000
	impact assessment).
11.	The concept of water security, the goals and
	implementation of the Water Secure World vision.
	Water security in Europe, the Danube river basin and
	Hungary.
12.	Hydroinformatics in the Water Resources Management
13.	Hydroinformatics in the Water Resources Management
	2°
14.	Summary

The above programme is tentative and subject to changes due to calendar variations and other reasons specific to the actual semester. Consult the effective detailed course schedule of the course on the subject website.

2.5 Study materials

`	\sim	1.			
a)	()r	iline	ma	teria	c

1. Lecture notes

2.6 Other information

None

2.7 Consultation

The instructors are available for consultation during their office hours, as advertised on the department website at the beginning of the semester.

This Subject Datasheet is valid for:

II. Subject requirements

Assessment and evaluation of the learning outcomes

3.1 General rules

The assessment of the learning outcomes is specified in clause 2.2. above and evaluation of student performance occurs via the homework assignment and the written examination.

3.2 Assessment methods

Evaluation form	Abbreviation	Assessed learning outcomes
Homework	HF	B1-B2, C1, D1-D3
Written exam	V	A1-A5, C1

The dates of deadlines of assignments/homework can be found in the detailed course schedule on the subject's website.

3.3 Evaluation system

Abbreviation	Score
HF	33%
Total achievable during the semester	33%
V	67%
Sum	100%

3.4 Requirements and validity of signature

At least 70% of the attendance of lectures and passed homework are expected.

3.5 Grading system

An exam not exceeding 40% of the maximum score results in a failed (1) exam.

The final grade is the average of the grades given to homework and the final exam, weighted according to section 3.3 and finally rounded.

3.6 Retake and repeat

- 1. After the fee payment described in the Regulations, homework can be submitted with a delay until the deadline described in the Detailed course schedule.
- 2. The submitted and accepted homework can be corrected without fee until the deadline described in point 1.

3.7 Estimated workload

Activity	Hours/semester
Contact hours	14x2 = 28
Homework	16
Home studying of the written material	22
Preparation for the examination	24
Sum	90

3.8 Effective date

1 September 2023

This Subject Datasheet is valid for: