

**COURSE SYLLABUS AND COURSE REQUIREMENTS**  
**ACADEMIC YEAR 2023-2024 SEMESTER FALL**

<b>Course title</b>	<b>HYDRAULIC ENGINEERING</b>
<b>Course Code</b>	<b>MSB432ANEP</b>
<b>Hours/Week: le/pr/lab</b>	<b>1/2/0</b>
<b>Credits</b>	<b>5</b>
<b>Degree Programme</b>	<b>Civil Engineering BSc</b>
<b>Study Mode</b>	<b>Full-time</b>
<b>Requirement</b>	<b>Exam</b>
<b>Teaching Period</b>	<b>Semester 7</b>
<b>Prerequisites</b>	<b>Hydrology and Eng.Fluid.Mecha3.</b>
<b>Department</b>	<b>Civil Engineering</b>
<b>Course Director</b>	<b>Dr. Judit Pál-Schreiner</b>
<b>Teaching Staff</b>	<b>Dr. Judit Pál-Schreiner</b>

**COURSE DESCRIPTION**

This course exposes students to an expansive suite of topics and methods within the field of Hydraulic Engineering. Types and tasks of hydraulic engineering structures with the following topics: Watershed management of lowland and hilly areas. Regulation of lakes and rivers. Reservoirs and storage. Flood control and land drainage. Inland navigation. Water power development. Water intake and pumping stations. Small hydraulic engineering structures. Characteristic environmental impacts of hydraulic engineering structures. Sponge Cities.

**SYLLABUS**

**1. GOALS AND OBJECTIVES**

This course exposes students to an expansive suite of topics and methods within the field of Hydraulic Engineering. Types and tasks of hydraulic engineering structures with the following topics: Watershed management of lowland and hilly areas. Regulation of lakes and rivers. Reservoirs and storage. Flood control and land drainage. Inland navigation. Water power development. Water intake and pumping stations. Small hydraulic engineering structures. Characteristic environmental impacts of hydraulic engineering structures. Sponge Cities.

**2. COURSE CONTENT**

**TOPICS**

<b>LECTURE</b>	<ol style="list-style-type: none"> <li>1. <i>Watershed management</i></li> <li>2. <i>Flood control and land drainage.</i></li> <li>3. <i>Small hydraulic engineering structures</i></li> <li>4. <i>Sponge cities</i></li> </ol>
<b>PRACTICE</b>	<ol style="list-style-type: none"> <li>1. <i>Watershed management case study</i></li> <li>2. <i>Flood control and land drainage case study</i></li> <li>3. <i>Small hydraulic engineering structures case study</i></li> <li>4. <i>Sponge cities case study</i></li> </ol>

## DETAILED SYLLABUS AND COURSE SCHEDULE

week	Topic	Compulsory reading; page number	Completion date, due date
1.	Course description; Orientation		
2.	Definition Hydraulic Engineering	[1.]	
3.	Watershed management	[1.]	
4.	Flood control and land drainage	[1.]	
5.	Small hydraulic engineering structures	[1.]	
6.	Sponge cities 1	[1.]	
7.	Sponge cities 2	[1.]	
8.	Holiday- no classes		
9.	Case studies	[1.]	
10.	Case studies	[1.]	
11.	Case studies	[1.]	
12.	Exam test		20.11.2023
13.	Retake exam test (if required)		27.11.2023

week	Topic	Completion date, due date
1.	Course description; Orientation	
2.	Preparing project	
3.	Consultation	
4.	Presentation 1-The Problem	25.09.2023
5.	Preparing project	
6.	Consultation	
7.	Presentation 2-The Technics, Method	16.10.2023
8.	Holiday- no classes	
9.	Preparing project	
10.	Consultation	
11.	Presentation 3- The Result	13.11.2023
12.	Case studies	
13.	Case studies	

### 3. ASSESSMENT AND EVALUATION

#### **ATTENDANCE**

*In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description.*

#### **Method for monitoring attendance**

Attendance sheet. Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

#### **ASSESSMENT**

##### **Course-unit with final examination**

**Mid-term assessments, performance evaluation and their weighting as a pre-requisite for taking the final exam**

Type	Assessment	Weighting as a proportion of the pre-requisite for taking the exam
Examtest	45% (min 18%)	45%
Presentation 1	15% (min 6%)	15%
Presentation 2	15% (min 6%)	15%
Presentation 3	15% (min 6%)	15%
Class attendance	10% (min 4%)	10%

**Requirements for the end-of-semester signature**

Each individual assessment must be at least 40% on its own.

**Re-takes for the end-of-semester signature** (PTE TVSz 50§(2))

The specific regulations for grade betterment and re-take must be read and applied according to the general Code of Studies and Examinations

Examtest can be repeated/improved each at least once every semester.

**Type of examination:** written

**The exam is successful if the result is minimum 40 %**

**Calculation of the grade** (TVSz 47§ (3))

**Calculation of the final grade based on aggregate performance in percentage.**

Course grade	Performance in %
excellent (5)	85 % - 100%
good (4)	70 % - 84 %
satisfactory (3)	55 % - 69 %
pass (2)	40 % - 54 %
fail (1)	0% - 39 %

**4. SPECIFIED LITERATURE**

**COMPULSORY READING AND AVAILABILITY**

[1.] Lecture notes ppt.

**RECOMMENDED LITERATURE AND AVAILABILITY**

[2.] NED H. C. HWANG, ROBERT J. HOUGHTALEN: Fundamentals of Hydraulic Engineering Systems

[3.] JOHN A. ROBERSON, JOHN JOSEPH CASSIDY, M. HANIF CHAUDHRY: Hydraulic Engineering