

Tárgytematika / Course Description

Hydraulic structures

EKNB_KETA013

Tárgyfelelős neve /

Teacher's name: dr. Bene Katalin

Félév / Semester: 2022/23/1

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/1/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

To develop understanding of the basic principles and concepts of analysis and design of hydraulic structures.

To encourage class discussions for formulating and solving multi-variable hydraulic design problems.

To introduce the students to professional practice and design codes.

TANTÁRGY TARTALMA / DESCRIPTION

6/SEPT	1	Introduction, hydraulics
13/SEPT	2	Hydroelectric power development, pumping stations
20/SEPT	3	NO SCHOOL
27/SEPT	4	Waves and offshore engineering, coastal engineering
4/OCT	5	PRESENTATION #1 (10-15 MINS) River engineering
11/OCT	6	Inland waterways
18/OCT	7	Diversion works, cross drainage and drop structures

25/OCT	8	Embankment dams, concrete dams
8/NOV	10	MIDTERM
15/NOV	11	Dam outlet, energy dissipation, gates and valve
22/NOV	12	CFD introduction, theory Numerical modeling of flows
29/NOV	13	PRESENTATION #2 (10-15 MINS) CFD introduction, LAB
6/DEC	14	CFD case studies, LAB Closing the semester
DEC-JAN		EXAM(S)

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Evaluation:

- prez #1 15 points
- midterm 30 points
- prez #2 15 points
- exam 40 points

Marks:

90% - 100%	5
80% - 89%	4
70% - 79%	3
60% - 69%	2

< 59%	1
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KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

1. Hydraulic structures / P. Novak ... [et al.]. 4th ed., Abingdon ; New York (N.Y.) : Taylor & Francis, 2007, 700 p.
2. Chen, Sheng-Hong. Hydraulic structures / ShengHong Chen. Berlin : Springer, 2015, 1029 p.
3. A. Ahsan (Ed.) Hydraulic Structures - Theory and Applications. London, United Kingdom, IntechOpen, 2020 [Online]. Available from: <https://www.intechopen.com/books/7587> doi: 10.5772/intechopen.77330