

Tárgytematika / Course Description

Hydraulic structures

EKNB_KETA013

Tárgyfelelős neve /
Teacher's name: dr. Bene Katalin

Félév / Semester: 2021/22/2

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

This course introduces design and operation of hydraulic structures related to water resources engineering. The course assume a good foundation in hydraulics, soil mechanics, and engineering materials, and of hydrology. The covers topics can be divided into two parts; Part One covers dam engineering, and Part Two other hydraulic structures.

TANTÁRGY TARTALMA / DESCRIPTION

Week	Topics and Tools
1	Intro, hydraulic review
2	Embankment dams
3	Concrete dams
4	Dam outlet and energy dissipation
5	Gates and Valves
6	Midterm I
7	River engineering
8	Hydrodynamic modelling (HEC-Ras)

9	Diversion works
10	Inland waterways
11	Hydroelectric power development
12	Pumping stations
13	Waves and offshore engineering coastal engineering
14	Presentations

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESMENT'S METHOD

Presentation 10%

Homework 40%

Midterm I 20%

Exam 30%

5 = 90 – 100%

4 = 80 – 90%

3 = 70- 80%

2 = 60-70%

1 = 0- 60%

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Required text:

Hydraulic Structures
Fourth Edition

P. Novak, A.I.B. Moffat and C. Nalluri
and
R. Narayanan

Recommended text:

Houghtalen, R. J. Fundamentals of Hydraulic Engineering