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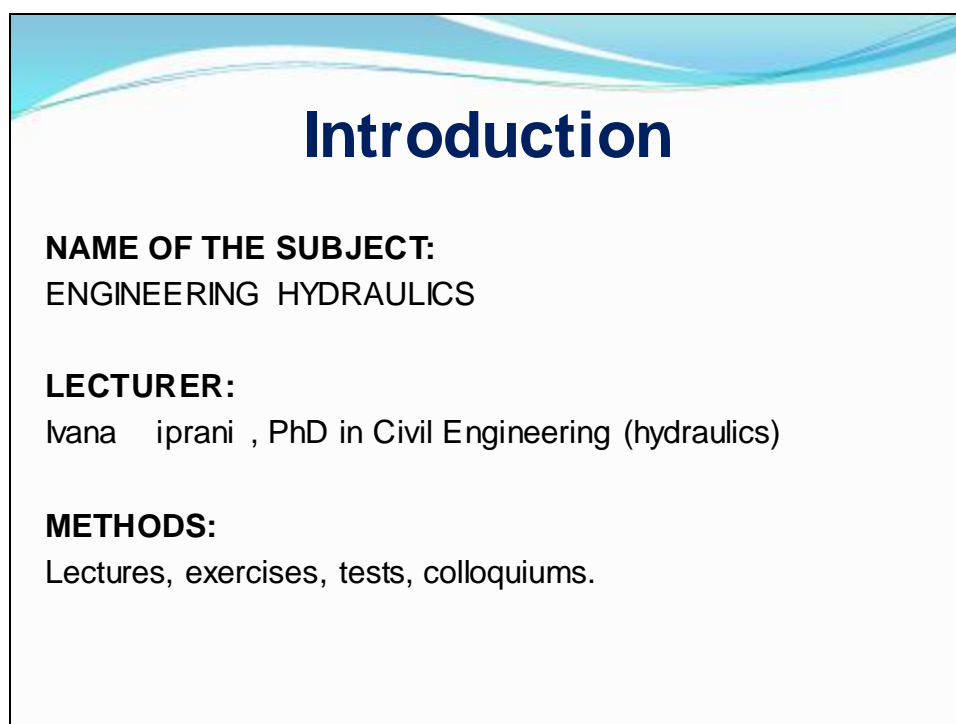
FACULTY OF CIVIL ENGINEERING

# ENGINEERING HYDRAULICS

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## Introduction

**NAME OF THE SUBJECT:**  
ENGINEERING HYDRAULICS

**LECTURER:**  
Ivana Iprani , PhD in Civil Engineering (hydraulics)

**METHODS:**  
Lectures, exercises, tests, colloquiums.

## Introduction

### **WORKLOAD:**

5.0 credits x 40/30 = 6.67 hours

Total workload for the Subject 5.0 x 30 = 150 hours

### **EXAMINATION METHODS:**

- Attendance to lectures and exercises: 2 - 5 pt;
- Graphic works: 10 -25 pt;
- Colloquiums: max 19 - 35 pt;
- Final exam: max 50 pt;
- Pass requires minimum 50 pt.

## Topics

Week 1

- Introductory on hydraulics.
- Energy.
- Flow in watercourses.

# Topics

Week 2

- Calculations for non-uniform and non-stationary flow in watercourses. Laboratory exercises.



# Topics

Week 3

- Non-stationary flow in a watercourse - flow with sudden changes.

## Topics

Week 4

- The sea wave.

Week 5

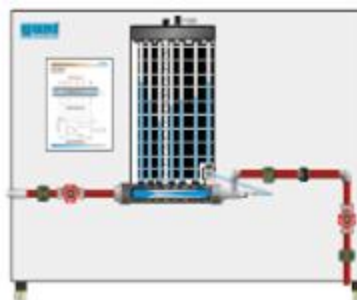
- Stationary flow in water supply networks. Unsteady flow in pressurized systems. Laboratory exercises.

Week 6

- Water hammer.

## Topics

Laboratory exercises



# Topics

Week 7

- Oscillations of water masses in a system with water chambers.

# First Testing Week

Week 8

- I COLLOQUIUM

## Topics

Week 9

- Underground waters.

Week 10

- Wells.

Week 11

- Regional groundwater flow models. Laboratory exercises.

## Topics

Laboratory exercises



## Topics

Week 12

- Mechanisms of matter transport in groundwater.

Week 13

- Transport of matter carried during surface waters - mechanism of sediment transport.

Week 14

- Air flow. Effect of wind on building structures.

## Second Testing Week

Week 15

- II COLLOQUIUM

## Learning outcomes

*After having passed the exam, students will be able to apply the basic methodologies for making hydraulic analyzes of water flow in engineering facilities and systems provided by the curriculum.*

## References for the subject

Kapor R.: Hydraulics, University in Belgrade – Faculty of Civil Engineering, Beograd, 2011.

Jovi , V.: Fundamentals of hydromechanics, Element, Zagreb, 2006.

Chow, V. T.: Open Channel Hydraulics, Mc Graw-Hill Kogakusha, 1986.