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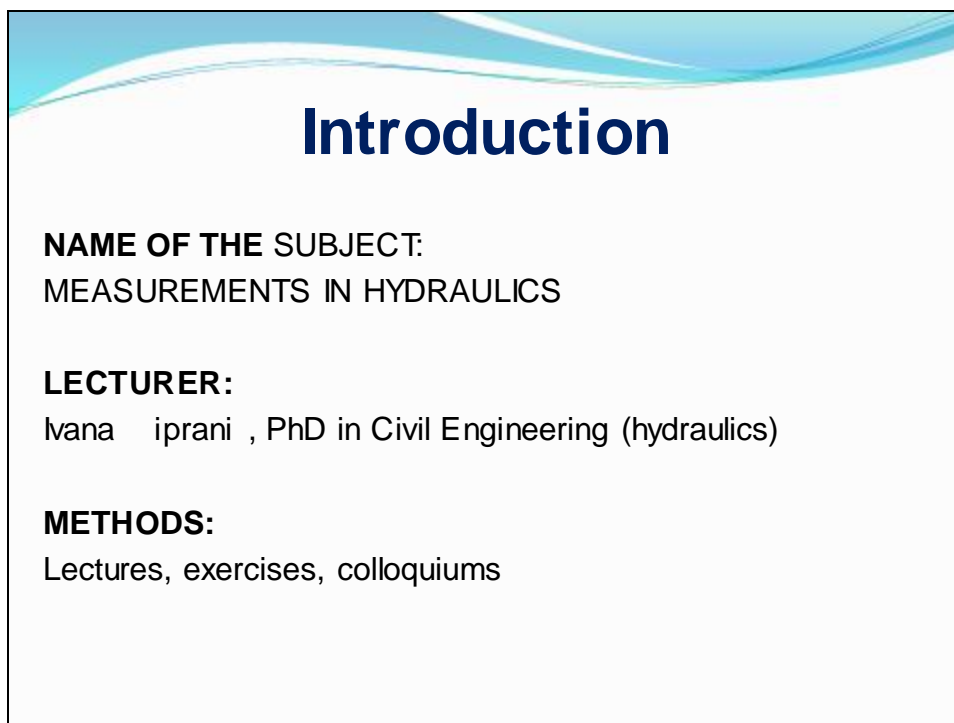
FACULTY OF CIVIL ENGINEERING

# MEASUREMENTS IN HYDRAULICS

Ivana Šiprani, PhD in Civil Engineering

Assistant Professor  
University of Montenegro  
Faculty of Civil Engineering  
e-mail: ivanac@ucg.ac.me

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## Introduction

**NAME OF THE SUBJECT:**  
MEASUREMENTS IN HYDRAULICS

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

**METHODS:**  
Lectures, exercises, 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: 19 - 35 pt;
- Final exam: 50 pt;
- Pass requires minimum 50 pt.

## Topics

Week 1

- Introduction
- Place and role of measurement
- Basic characteristics of physical quantities

# Topics

Week 2

- Dynamic characteristics of physical systems.

# Topics

Week 3

- Measuring transducers of hydrotechnical quantities:
  - types
  - classification
  - conversion principles
  - accuracy class.

## Topics

### Week 4

- Pressure sensors. Depth sensors.

### Week 5

- Velocity sensors. Flow sensors. Quality sensors and position sensors.

## Topics

### Week 6

- Measurements in pressure systems. Measurements in systems with free surface. Laboratory exercises.

### Week 7

- Measurements in open canal flow.

## First Testing Week

Week 8

- I COLLOQUIUM

## Topics

Week 9

- Diagnostic measurements.

Week 10

- Hydrometeorological measurements. Laboratory exercises.

Week 11

- Remote detection for the needs of hydraulic engineering.

## Topics

Week 12

- Data acquisition and database systems

Week 13

- Management of hydraulic structures

Week 14

- Practical examples of measurements in hydraulic engineering

## Second Testing Week

Week 15

- II COLLOQUIUM

## Learning outcomes

*After having passed the exam, students will be able for independent participation in the measurement and processing of basic hydraulics quantities and handling of modern measuring equipment used for these purposes*

## References for the subject

. Maksimovi : Measurements in hydraulics. University in Belgrade, Faculty of Civil Engineering, Beograd, 1993.

M. Radojkovi , D. Obradovi , . Maksimovi : Computers in hydraulic engineering, analysis, design, measurement and management, Gra evinska knjiga, Beograd, 1989.

D. Prodanovi : Script with lecture [http://hikom.grf.bg.ac.rs/stari-sajt/web\\_stranice/KatZaHidr/Predmeti/Merenja/Literatura/Skripta/Tekst/Skripta.html](http://hikom.grf.bg.ac.rs/stari-sajt/web_stranice/KatZaHidr/Predmeti/Merenja/Literatura/Skripta/Tekst/Skripta.html)