



ROMANIA  
1 DECEMBRIE 1918  
UNIVERSITY OF ALBA IULIA

# Workshop:

## The Influence of The Building Shape on Its Earthquake Behaviour

Adina – Ana Mureşan



# **Workshop: The Influence of The Building Shape on Its Earthquake Behaviour**

**23<sup>rd</sup> May 2023, 10:00 – 14:00**

Language of instruction: English

Name of lecturer: Senior Lecturer PhD Eng. Mureşan Adina – Ana

<b>Form of instruction</b>	<b>Number of teaching days</b>	<b>Number of teaching hours per day</b>	<b>Form of evaluation (if any)</b>	<b>Certification</b>
Lecture	1	4	N/A	N/A

### **COURSE AIMS:**

- Acquiring knowledge in building dynamics.
- Understanding the influence of the building shape on the dynamic response in case of earthquakes.

### **COURSE CONTENTS (for each workshop):**

- Introduction into Earthquake Engineering.
- The basics of modal analysis.
- Modelling different types of structures using Autodesk Robot Structural Analysis.

### **TEACHING METHODS:**

- Presentation.
- Demonstration using Autodesk Robot Structural Analysis.

### **LEARNING OUTCOMES:**

- To identify the modes of vibration.
- To tell the difference between the dynamic response of different types of structures (steel, reinforced concrete, timber).

### **LEARNING OUTCOMES VERIFICATION AND ASSESSMENT CRITERIA (if any):**

- Not necessarily.

### **RECOMMENDED READING (English language only):**

- De Y-X. Hu, S-C. Liu, W. Dong, „*Earthquake Engineering*”, CRC Press, 1996.
- Charles Scawthorn, Wai-Fah Chen, „*Earthquake Engineering Handbook*”, CRC Press, 2002.
- Roberto Villaverde, „*Fundamental Concepts of Earthquake Engineering*”, CRC Press, 2009.
- Halûk Sucuoğlu, Sinan Akkar, „*Basic Earthquake Engineering: From Seismology to Analysis and Design*”, Springer, 2014, ISBN: 978-3-319-01026-7
- Amr S. Elnashai, Luigi Di Sarno, „*Fundamentals of Earthquake Engineering: From Source to Fragility*”, John Wiley & Sons, 2015