

## **Tárgytematika / Course Description** **Geodesy**

**EKNB\_KETA052**

**Tárgyfelelős neve /**

**Teacher's name:** Hegyi Pál Balázs

**Félév / Semester:** 2023/24/2

**Beszámolási forma /**

**Assesment:** Vizsga

**Tárgy heti óraszám /**

**Teaching hours(week):** 1/2/1

**Tárgy féléves óraszám /**

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

### **OKTATÁS CÉLJA / AIM OF THE COURSE**

Geodesy surveys are necessary for planning and set-out tasks before and during construction.

This course provides an overview of the land surveying techniques and focuses on the angle measurements and leveling. The labs provide hands-on experience in conventional and modern surveying instruments. Students as a team will work on a surveying project.

Students will be able to choose the right method to solve different geodesy tasks and gain experience in surveying instruments. (Leveling instrument, Total station, GPS)

### **TANTÁRGY TARTALMA / DESCRIPTION**

1. Geodesy definitions, general information
2. Coordinate systems, geodesy projections
3. Geodesy networks
4. Angle measurements and the use of the theodolite
5. Angle measurements calculations
6. High measurements: Trigonometry leveling
7. High measurements: Geometry leveling
8. Measurement errors
9. GNSS - Global Navigation Satellite System
10. Modern survey methods: Laser scanner (LIDAR)
11. Photogrammetry
12. Construction surveys

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## SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Marks are from 1 (worst) to 5 (best).

0-50%:	1
51-65%:	2
66-75%:	3
76-85%:	4
86-100%:	5

Points will be given for:

Home assignments (50p)  
Written exam (50p)

100 points is total.

For taking the exam: 25 out of 50 points have to be gathered during the semester.

### **Offered marks:**

In case of with excellent mid-term performance, you can avoid the exam. For rich the offered mark: 50 out of 38 (76%) points have to be gathered during the semester and lab.

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## KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Charles D. Ghilani; Paul R. Wolf: Elementary Surveying

Teaching materials: SZE Learning system: <https://szelearning.sze.hu/>

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## AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL