

# Basic surveying

## Detailed Course Program

2021/22/2. semester – Lecturers: Abir Khaldi (BL), Balázs Lupsic (BL), Piroska Laky (PL)

We ek	No.	Day	Date	Lecture r	Topic
1	1	Wen	16 Feb	AK	Introduction. What is surveying? Angles, distances and area
	2	Fri	18 Feb	AK	Basics of geometry, similar triangles, right angle triangles, roundings
2	3	Wen	23 Feb	BL	Basic trigonometrical functions in right triangle and in unit circle
	4	Fri	25 Feb	BL	Trigonometrical applications 1.
3	5	Wen	2 Mar	BL	Trigonometrical applications 2.
	6	Fri	4 Mar	AK+PL	Trigonometric heighting using surveying instruments
4	7	Wen	9 Mar	BL	Simple coordinate geometric computations (equation of a line)
	8	Fri	11 Mar	BL	Simple coordinate geometric computations 2. (intersection of lines, circle, etc.)
5	9	Wen	16 Mar	AK	Horizontal coordinate systems (Cartesian, polar, mathematical, geodetic). Conversion between polar and rectangular coordinates.
	10	Fri	18 Mar	AK	Fundamental tasks of plane surveying
6	11	Wen	23 Mar	AK	Practice of fundamental tasks, area calculation.
	12	Fri	25 Mar	AK	<b>1<sup>st</sup> control test: Basic geometry, trigonometry, coordinate geometry</b>
7	13	Wen	30 Mar	AK	Leveling observations. Determination of height differences and distances
	14	Fri	1 Apr	AK+PL	Leveling observations 2. Mapping with level instrument.
8	15	Wen	6 Apr	AK	<b>Homework assignment</b> , Start working on sample homework (measured points).
	16	Fri	8 Apr	-	Vásárhelyi Day (no education)

9	17	Wen	13 Apr	AK	Calculation of detailed point coordinates using distance and angle measurements. Calculate area and heights also.
	18	Fri	15 Apr	-	Spring holiday
10	19	Wen	20 Apr	-	Spring holiday
	20	Fri	22 Apr	AK	Sketch of the detailed points of , drawing angles and distances using a ruler and a protactor.
11	21	Wen	27 Apr	BL	Geometrical optics I.
	22	Fri	29 Apr	BL	Geometrical optics II.,
12	23	Wen	4 May	BL	Geometrical optics III.,
	24	Fri	6 May	BL	Circular motion, dynamics I., <b>Homework deadline</b>
13	25	Wen	11 May	BL	Circular motion, dynamics II.
	26	Fri	13 May	BL	Gravitation, the Earth's gravity, interpretation of heights I.
14	27	Wen	18 May	BL	Gravitation, the Earth's gravity, interpretation of heights II.
	<b>28</b>	<b>Fri</b>	20 May	BL	<b>2nd control test: Optics, gravitation, electromagnetic waves</b>

Spring holiday: from 14 of April until 20 of April, Vásárhelyi Day without education: 8 of April

Evaluation system (max. 60 points):

- 2 midterm tests (20-20 points)
- 1 homework (20 points)

There is no minimum point threshold for any of the control tests or homework. In order to pass the subject, the student has to achieve at least 50% of the total achievable points (min. 30 points).