



Descriptive Geometry 1
Year 2017-2018
1st (fall) semester

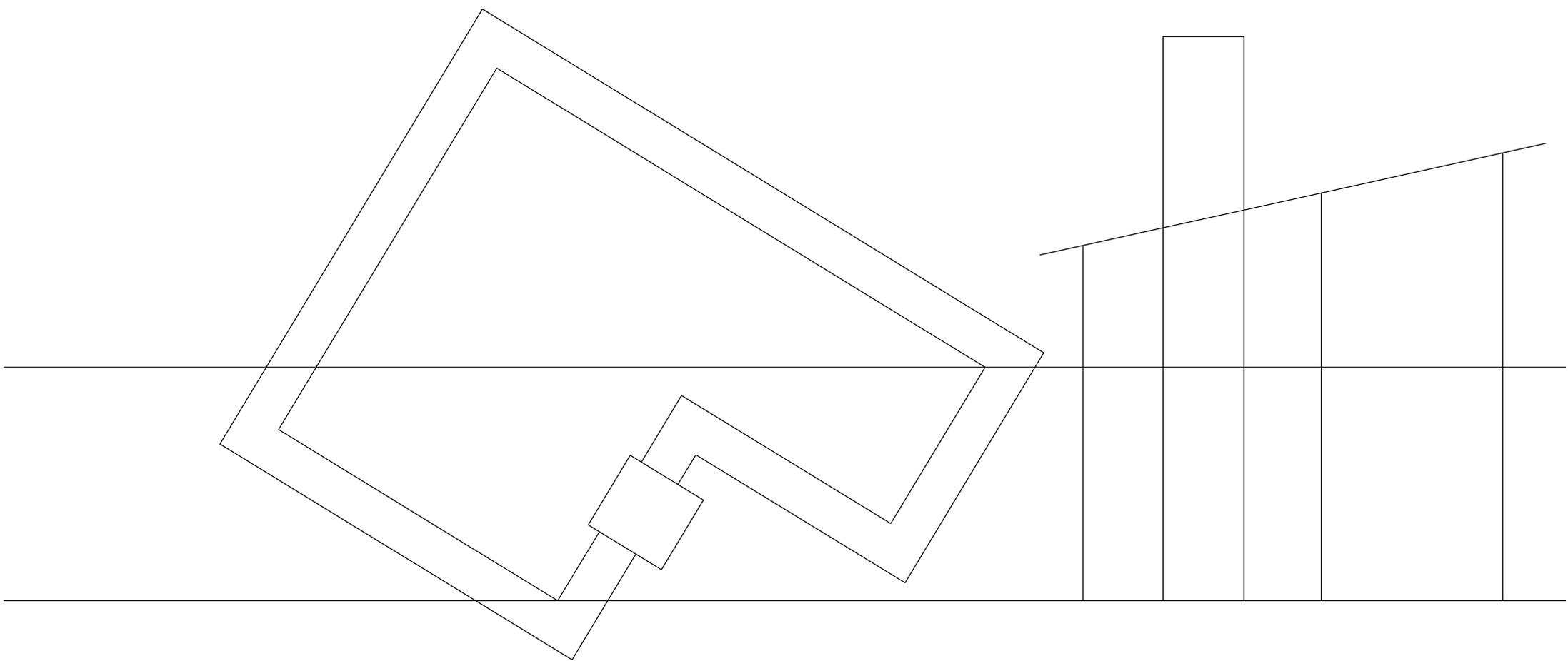
2nd DRAWING

Tint-drawing, size A2
Deadline for delivery: Nov. 29

- 1) METRICAL PROBLEM Let a line **a** in general position be given. The line **b** is defined by its point **B** and the second image **b''**. Represent a
 - a) regular tetrahedron
 - b) cubewhose sides are on the pair of lines.
- 2) AXONOMETRIC REPRESENTATION OF A POLYHEDRON WITH SHADOWS Draw an irregular pentagon lying in the plane **[xy]** in free axonometry. Represent a pyramid with the pentagon base and the apex on the **z** axis. Cut the pyramid by a plane, show the visibility of the surface of the truncated pyramid below the plane. Construct all shadows and shades at an arbitrary direction of lighting. Consider the planes **[xz]** and **[yz]** as transparent ones
- 3) REGULAR POLYHEDRON Represent a regular octahedron in frontal axonometry whose side length is 5 cm, one of the vertices is the point **O** and an axis is on **z**. One diagonal of the orthogonal projection on **[xy]** is on the
 - c) axis **x**
 - d) bisector of the angle of **x** and **y**Remove two faces of the octahedron lying in parallel planes. Show the visibility.
- 4) ORTHOGONAL AXONOMETRY Construct the orthogonal axonometric image of the prism whose axis is **z**, the height is 7 cm and the radius of the circumcircle about the regular hexagon base is 3.5 cm. Remove a lateral face and show the visibility of the surface. Construct the shadows at a lighting
 - e) parallel to the plane **[xz]**
 - f) parallel to the plane **[yz]**.
- 5) PERSPECTIVE WITH SHADOW Represent the building of the Figure in perspective with all shadows and shades at an arbitrary parallel lighting.
- 6) CIRCLE WITH SHADOW Represent a circle passing through the points **A**, **B** and **C** in Monge's system. Construct the 10 principal points with tangents, draw the ellipses. Construct the shadows at a lighting parallel to the second image plane.

Oct. 24, 2017, Budapest

dr. Pál Ledneczki
associate professor



+