Descriptive geometry and engineering graphics

L01

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Contact details

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Consultations: Wednesday 12.00 – 13.00

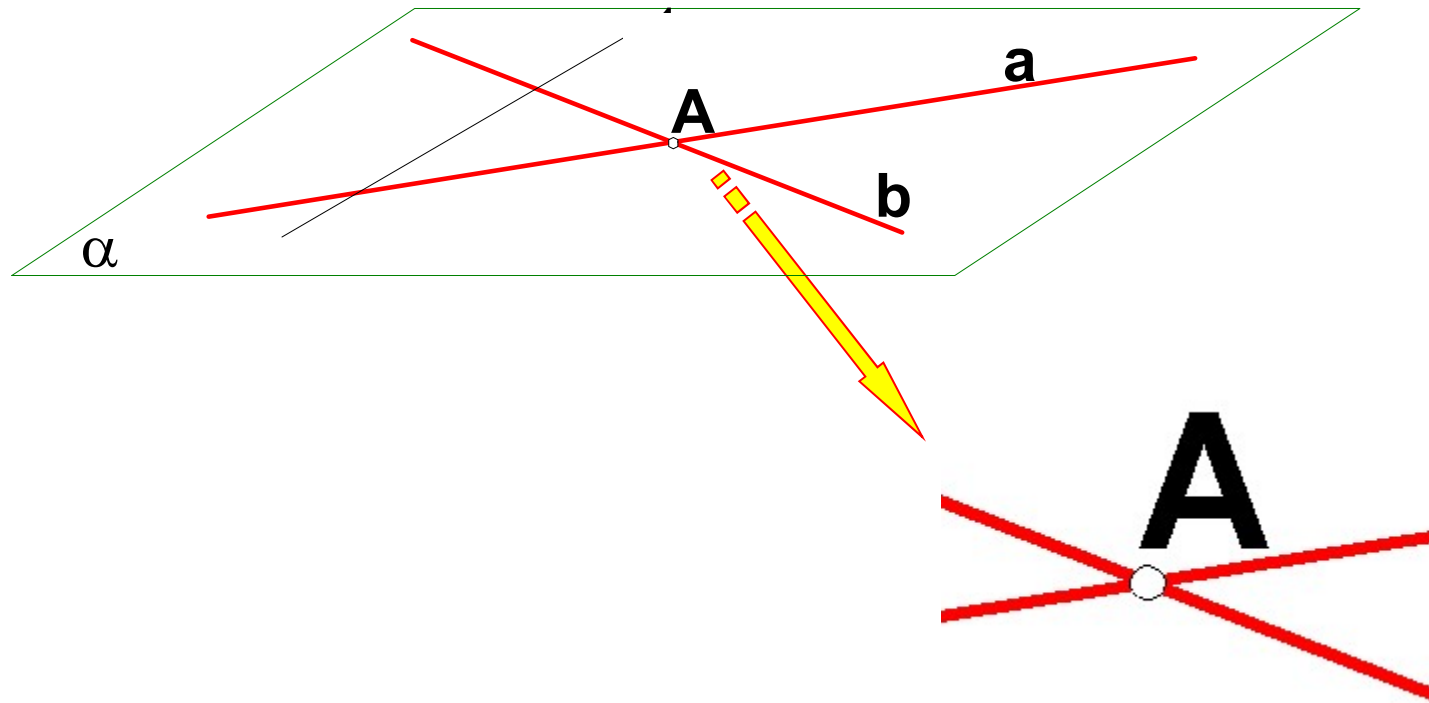elearning.po.edu.pl → *Descriptive geometry [21/22L]* course
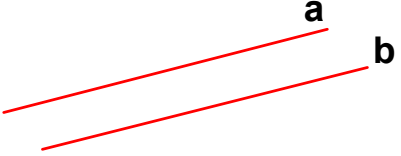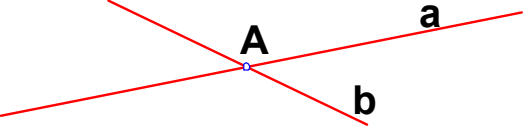
Conditions for passing the subject:
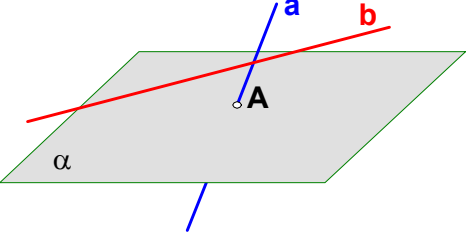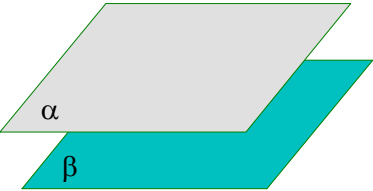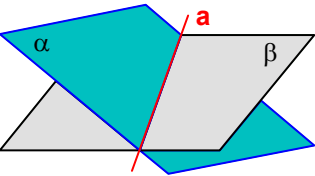
- grade from the test
- positive evaluation of the tasks on the exercises

Nomenclature

- point   →   **A, B, C ...**   **1, 2, 3 ...**   **I, II, III**

- straight-line   →   **a, b, c ...**

- plane   → α, β, γ ...
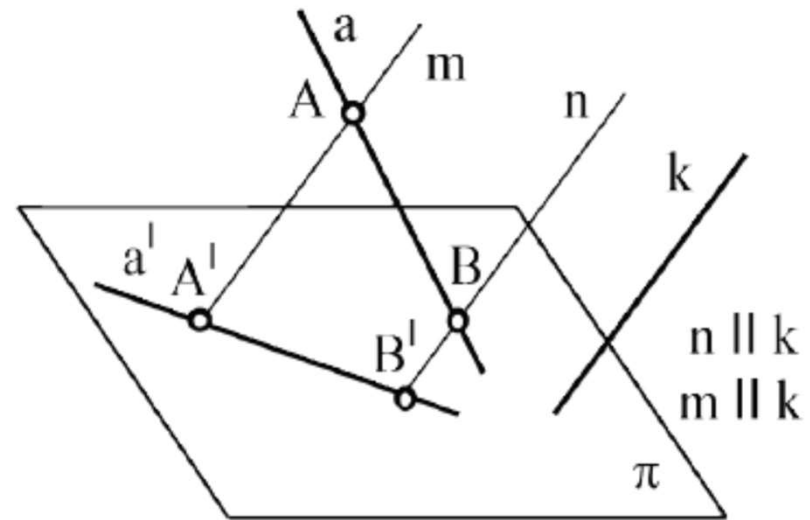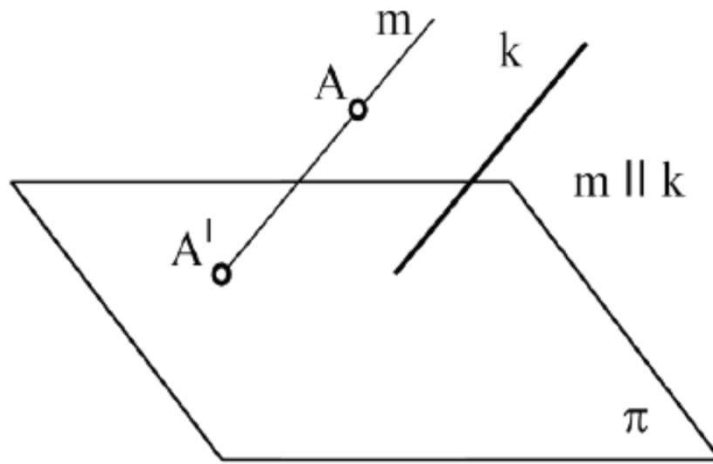
relationships

	parallerism $\qquad$ a || b
	intersection $\qquad$ a x b = A
	straight line intersecting the plane $\quad$ a x α = A straight line parallel to the plane $\qquad$ b || α
	parallel planes $\qquad$ α || β
	intersecting planes $\qquad$ α x β = a

projections

Projection of any point A on the plane **π** is the point described as A', in which the projection line m ǁ k (parallel), while crossing through point A, it pierces the view plane **π**

projections
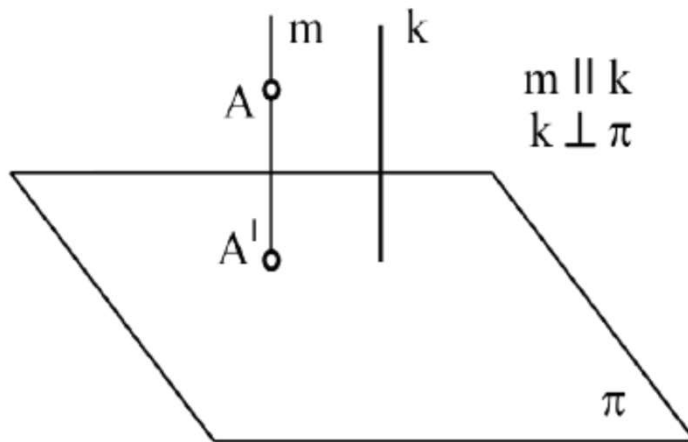
Projection of any point A on the plane **π** is the point described as A', in which the projection line m **ll** k (parallel) , while crossing through point A, it pierces the view plane **π**

**Perpendicular projection** $k \perp \pi$
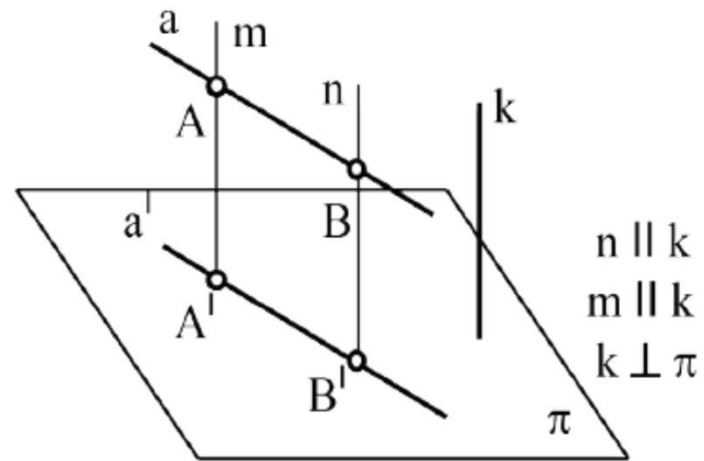
Invariants projections

- affiliation of a point to a set of points,

- collinearity of points,

- parallelism of straight lines,

- the ratio of the section division,

- ratio of the length of parallel segments,

- length of the segment parallel to the viewport,

- the size of the angle with both arms parallel to the viewport.

Projections - axonometry

Type of parallel projection, projection of space (3D object) on a plane
using a rectangular axis system.
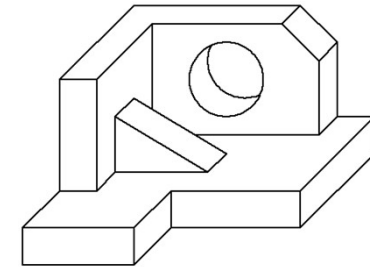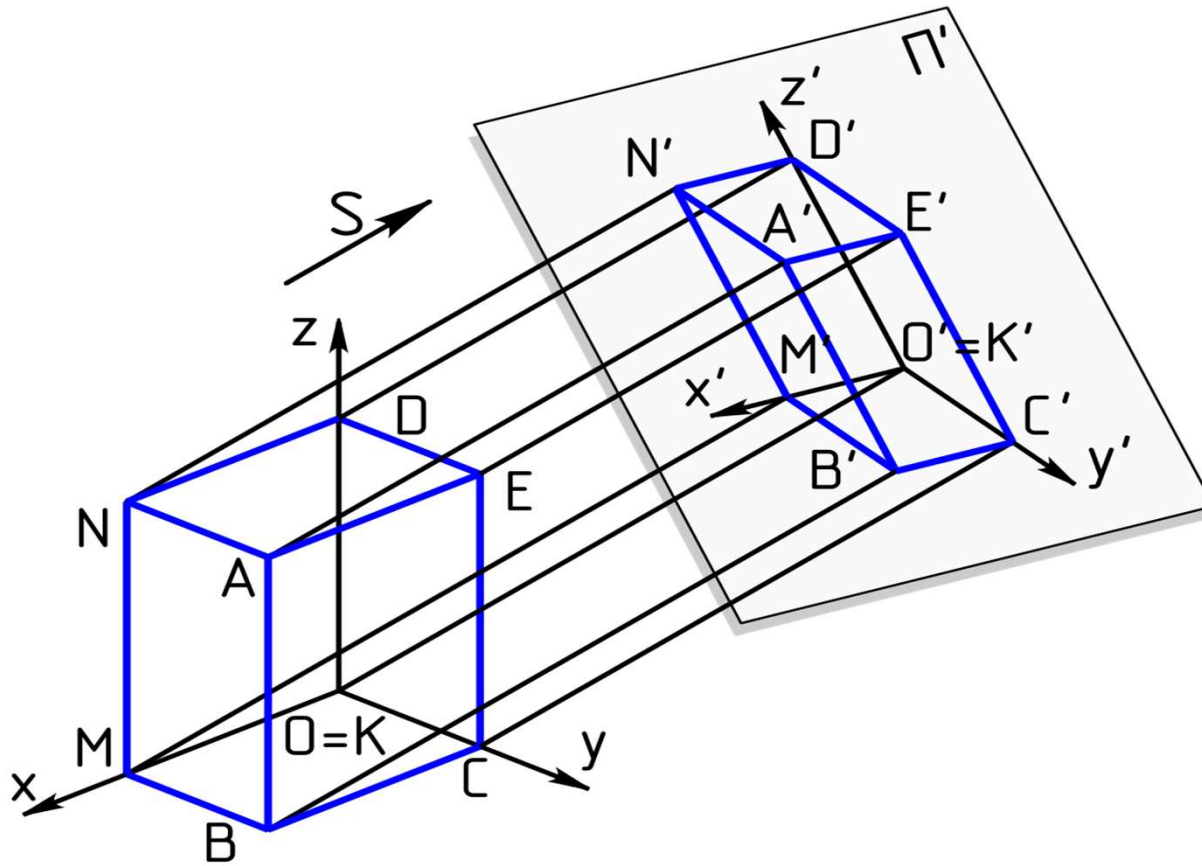
S - direction of projection, π' - viewport , x'y'z' – projected coordinate system