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# GEOMETRIA DESCRITTIVA A - L

ICAR/17 - 6 CFU - 2° Semester

## Teaching Staff

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## LEARNING OBJECTIVES

The course proposes the teaching of the foundations of descriptive geometry and major graphics applications, with the aim of enabling students the understanding and management of spatial relationships between three-dimensional objects and their plane representation. Understand and represent the three-dimensional space through the geometric design becomes an irreplaceable instrument of knowledge, modification, communication of reality.

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## DETAILED COURSE CONTENT

The course is divided into lectures and exercises will cover the following topics:

- 1 The architectural design and modeling plastic as a critical instrument of knowledge and control of space to various scalar size (city, district, building and everyday object)
- 2 The technical drawing tools
- 3 Basic geometrical constructions with different techniques: polygons, connections, polycentric curves
- 4 From the three-dimensional space to the representation on the plane; Definition of basic geometric entities; projective geometry elements: basic geometric shapes; improper elements; fundamental operations of projective geometry; remarkable properties; projectivities, perspectivity and homology
- 5 The representation of the descriptive geometry methods
- 6 Orthogonal projections: reference elements; point, segment, line and plane in the various trihedrons; membership conditions, perpendicularity and parallelism; straight / floor intersections and between floors; orthogonal projections of plane and solid figures however arranged in the space; actual size of segments and plane figures; of solid sections and intersections
- 7 Projections isometric: reference elements; orthogonal and oblique axonometry; representation of geometric entities; conditions of belonging and parallelism; axonometries solids and intersections

between solid; axonometries iposcopiche, exploded and split isometric

8 The ruled surfaces: cylinders and cones and their plane sections

9 Projections Listed: representation of points, lines, planes and land; signs reading of maps; plans listed, plans to contour lines and elevation profiles.

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## **TEXTBOOK INFORMATION**

C. CUNDARI, Il Disegno. Ragioni. Fondamenti. Applicazioni. Edizione Kappa, Roma 2006

M. DOCCI, Teoria e pratica del disegno, Editori Laterza, Roma-Bari 1994

R. MIGLIARI, Geometria descrittiva. 1. Metodi e costruzioni, Città Studi, Milano 2009

R. MIGLIARI, Geometria descrittiva. 2, Città Studi, Milano 2009

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