



Date:	REGISTRATION OF COURSES	RESPONSIBLE OF REGISTRATION:
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AREA OF KNOWLEDGE	SUB-AREA	UNDERGRADUATE	POSTGRADUATE
BASIC SCIENCES			
ECONOMICS AND SOCIAL SCIENCES			
HEALTH SCIENCES			
ENGINEERING, ARCHITECTURE AND TECHNOLOGY		X	
EDUCATION SCIENCES			
HUMANITIES AND ARTS			
AGRICULTURAL AND SEA SCIENCES			
MILITARY ARTS AND SCIENCES			
SAFETY AND CIVIL PROTECTION			
INTERDISCIPLINARY			
OTHERS			

ADSCRIPTION OR BRANCH (ES):

FACULTY	ARCHITECTURE AND URBANISM
SCHOOL	ARCHITECTURE
INSTITUTE	
DEPARTMENT	METHODS SECTOR
OTHERS	

COURSE:

NAME	DESCRIPTIVE GEOMETRY II
CODE	1022
EXECUTIVE UNIT	
CLASSIFICATION	COMPULSORY / THEORETICAL - PRACTICAL
APPROVAL DATE	
UPDATE DATE	
APPROVAL AUTHORITY	
CREDIT UNITS	4 (FOUR)
HOURS/WEEK	6 (SIX)
REGIMEN	SEMI-ANNUAL
ACADEMIC PERIODS	REGULAR
REQUIREMENTS	DESCRIPTIVE GEOMETRY I
PROFESSOR	



PURPOSES

LEARNING OBJECTIVES

That the student would be able to:

1. Represent in double orthogonal projection, polyhedrons, revolution bodies or part of them placed in any form and region of the space, as well as construct the cast shadow by these solids over a surface or another solid.
2. Make modifications in a topographic surface upon which a civil or architecture work will be established.
3. Make a spatial analysis of any problem, understanding this as the capacity to interpret in three dimensions a situation raised in two dimensions, or conversely, translate a two-dimensional model to a three-dimensional reality, supported by study sketches made on free hand.



CONTENTS

- 1. TOPIC 1: PROJECTIONS OF THE CIRCUMFERENCE (6h).**
Characteristics of the projection of circumferences. Remarkable conjugated diameters. The ellipse: geometrical characteristics and drafting and construction methods. Construction of the tangents of a circumference and an ellipse.
- 2. TOPIC 2: DEVELOPABLE ROUND SHAPES (6h).**
Definition. Classification. Elements and geometrical characteristics of the cylinders and revolution cones and circulars oblique. Tangent planes to conical and cylindrical surfaces. Construction of the projections of these shapes.
- 3. TOPIC 3: CROSS-SECTIONS (15h).**
Conical and polyhedral sections: types and characteristics. Universal or general method to obtain a section. Elliptic sections: construction through conjugated diameters. Parabolic sections: characteristics, obtainment method, parabola drafting through geometrical form. Determination of nature of a conic.
- 4. TOPIC 4: AXONOMETRIC PROJECTION (18h).**
Generalities. Properties. Types of axonometric projection. Oblique axonometric projection: characterizing elements, direct and indirect method of construction, perpendicularity and distances, auxiliary views. Circumference on oblique axonometric projection. Construction of polyhedrons, cylinders, cones and their sections in oblique axonometric projection.
- 5. TOPIC 5: LIGHTING AND SHADOWS (18h).**
Generalities. Focal and parallel lightings. Cast shadow of the point, the line and the circle over the projection planes. Core shadow (form shadow/shade). The terminator. Cast shadow by a solid over the projection planes. Cast shadow of a solid over another one.
- 6. TOPIC 6: DIMENSIONED PROJECTION (15h).**
Generalities. Point, line and plane in dimensioned projection: their representation; slope, interval, module and interpolation a line; line of maximum slope. Intersection of two planes, of three planes and a line with a plane. Representation of topographical surfaces. Applications of the dimensioned projection: roof with several slopes, construction of roads, esplanades and excavations.



INSTRUCTIONAL STRATEGIES

- The course has a theoretical-practical character, with a rough relation between both components of 1:3.
- The length indicated for each topic is only a reference and it can be modified in the opinion of the professor.

INSTRUCTIONAL MEDIA

- Three partial exams will be made (at the end of topics 2, 4 and 5). Topic 6 will be evaluated in the final exam.
- The objectives to evaluate and the characteristics of each exam shall be agreed in the Sector.

EVALUATION

TEXTBOOKS (If possible, according to contents)