

COURSE NAME

Name: **GRAPHIC EXPRESSION II**

Code: 101183

Curriculum: **DEGREE IN ENERGY ENGINEERING AND MINERAL RESOURCES**

Year: 1

ECTS Credits: 6

Classroom hours: 60

Face-to-face classroom percentage: 40%

Non-contact hours: 90

Online platform: <http://moodle.uco.es/m1718/course/view.php?id=7103>

FACULTY DETAILS

Name: ESQUINAS GARCÍA, JUAN (Coordinator) Centre: EPS BELMEZ

Department: GRAPHIC AND GEOMATIC ENGINEERING Area: GRAPHIC EXPRESSION IN ENGINEERING

Location of the office: DRAWING CLASS

E-mail: p82esqgj@uco.es

Telephone: 957 213044

SKILLS

- CB1 Have and understand specific knowledge of the study area of the Degree that gives skills for the exercise of the profession of Mining Engineering.
- CB3 Apply knowledge in professional contexts and develop and defend arguments in the field of knowledge of mining engineering.
- CB5 Gather and analyse relevant data within the study area of Mining Engineering, in order to issue judgements that include a reflection on relevant topics of a social, scientific or ethical nature.
- CU2 Know and refine the user level of ITs.
- CEB2 Spatial vision skills, and knowledge of the graphic representation techniques, both by traditional methods of metric geometry and descriptive geometry, and by means of computer-assisted design applications.

OBJECTIVES

Provide students with theoretical and practical skills regarding the use of those Representation Systems of greater interest of the professionals, for subsequent application to the field of Civil Engineering (System of Dimensioned Drawings), and provide them with the basic language allowing them to understand other professionals for information exchange purposes. The course is aimed at achieving the following General Goals:

Scientific-technical training for the exercise of the profession, and knowledge of consultancy, analysis, design, calculation, project, construction, maintenance, conservation and use functions.

Ability to project, inspect and manage works, within their relevant areas.

Ability to perform land planning studies and other studies regarding the environmental aspects related to infrastructure, within their relevant areas.

CONTENTS:

1. Theoretical contents

BLOCK I.- SYSTEM OF DIMENSIONED DRAWINGS

General aspects. Point, Straight Line and Plane.

Intersections between straight lines and planes

Lowerings

Parallelism and perpendicularity.

Distance and angles.

Application to determination of covers.

BLOCK II.- APPLICATIONS OF THE DIMENSIONED DRAWING SYSTEM TO GEOLOGY AND GEOTECHNICS.

General aspects. Nomenclature in geology and geotechnics

Determination of orientations by means of explorations and outcrops

Applications to determination of fault displacements in simple or folded sedimentary structures.

BLOCK III.- APPLICATIONS OF THE DIMENSIONED DRAWING SYSTEM TO TOPOGRAPHIC SYSTEMS

Representations of surfaces and plots

Plotting of large alignments

Measurement of areas

Volume determination methods

Layout of roads in plan and elevation view

Mergers

2. Practical contents.

Individual practical work will be undertaken by students, on the basis of exercises which are made available to students at the beginning of the semester, based on the application of theoretical concepts, which are solved in a traditional manner.

CAD practical work will be undertaken by students; said practical work will include an analysis of the general knowledge of this software and certain specific problems will be solved by using it, both in 2D and 3D.

An open-solution group work will be also performed.