

The “Cordovan proportion”

ERASMUS +

TITLE: “THE CORDOVAN PROPORTION”

Overview:

The “Cordovan Proportion” is the ratio between the radius of the regular octagon and its side length. This proportion was introduced by Rafael de la Hoz in 1973. Recently, the authors have found geometric properties linked with the proportion, related with a family of shapes named by them, Cordovan polygons. We will apply the theory of this mathematical discovery to the cordovan architecture, sculpture and painting.

AIMS AND OBJECTIVES

The global objectives in this field will be to create a teaching and learning environment that develops students in the following capacities:

1. Use of English as a communication tool through the Erasmus + Project “Be Art” focused on the “Cordovan Proportion” as a bridge between science and art.
2. Use new technologies to learn a language and be comfortable working with them.
3. Create real communication about topics of interest to students.
4. Assume individual responsibility and learn to work together.
5. Appreciate the importance of language in the face of a professional future.

CONTENTS

The students will present their findings in a variety of interesting mediums including oral presentations, visual presentations and original video footage. They learn to use various computer software programs to aid them in their work, including: Keynote, iMovie, iBook Author, Power Point, Prezi and Sony Record.

For example, a group of students will create a video quiz show. They are making up some questions and their answers, then they will play the contestants on a TV show.

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Another group of students will create a video in which they will use original footage and images to explain the “Cordovan Proportion” by means of the most important monuments. They will research and provide historically accurate information regarding the construction of these sites.

Finally, the students will also create an advertising campaign so that “Cordovan Proportion” is known in Córdoba.

The project has been successful in increasing the students’ awareness of their vast and impressive culture.

1st TERM

Choice of topic to be covered in the course. Creation of working groups and conducting a preliminary project outline.

Study of the “Cordovan proportion” concept, its origin and the main authors who have used it.

Teamwork will focus on the city of Córdoba. Each group will address one of the following areas of work which will present to the entire group:

- Cathedral and Orange Tree Courtyard (Catedral y Patio de los Naranjos)
- Around the Cathedral (Alrededores de la Catedral)
- Jewish (La Judería)
- Roman Bridge (Puente Romano)
- The Alcazar of the Christian Kings (El Alcázar de los Reyes Cristianos)
- Arab Baths (Los baños árabes)
- Potro Square and Ribera (Plaza del Potro y Ribera)
- Horseback (Caballerizas)
- Churches of Cordoba (Iglesias de Córdoba)

2nd TERM

Research of the “Cordovan Proportion” in the world.

Choose the type of presentation for the project and the beginning of its development. At the end of this part, students must have the work finished.

3rd TERM

Complete the final project. Students must present their jobs in English with their schoolfellows as audience.

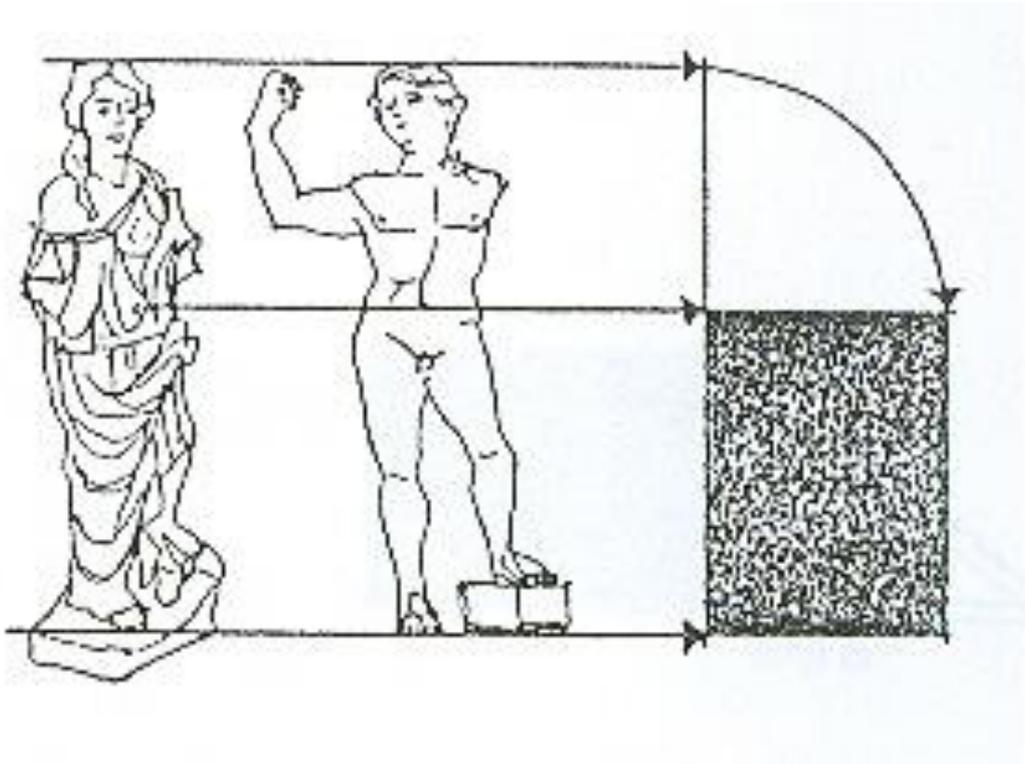
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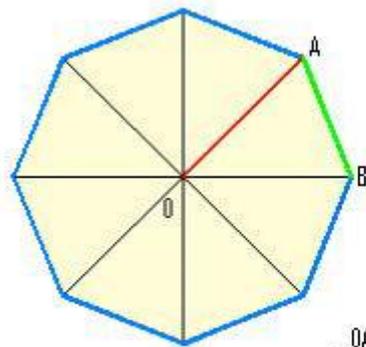
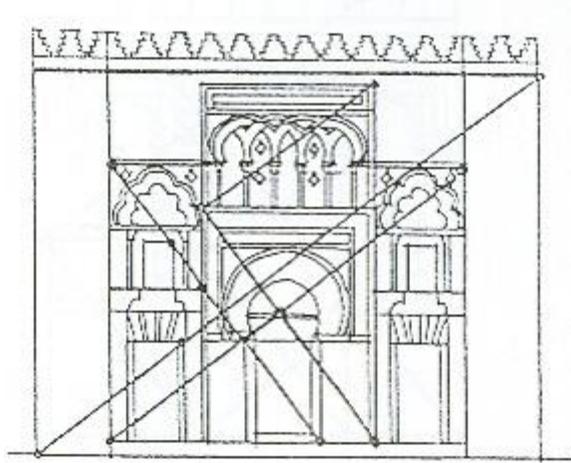
D. Rafael de la Hoz



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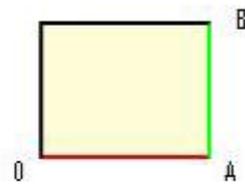


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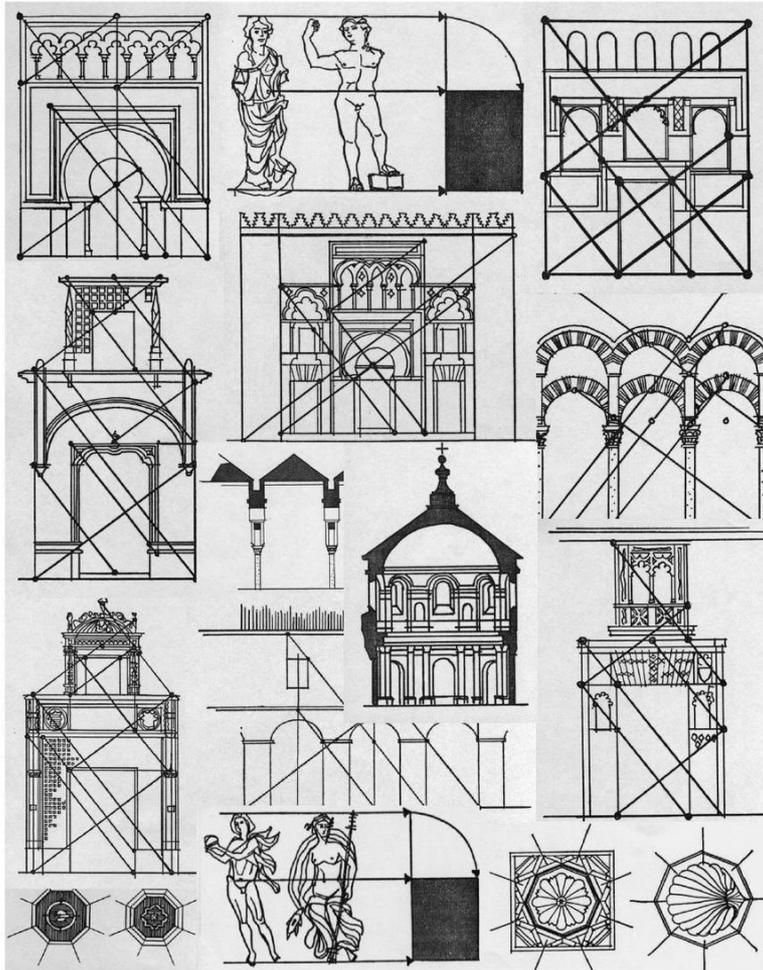
Octógono regular

$$\frac{OA}{AB} = 1.3$$



Rectángulo cordobés

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PROPORCIÓN CORDOBESA

1

METHODOLOGY

1. The project will be undertaken in a highly participatory framework discussions, debates and collaboration between teachers and students.
2. The project should be conducted in a highly participatory framework, where collaboration between teachers and students of different groups, will be the base for their development. Depending on the type of activity, the number of people in each group could vary. Anyway, the responsibilities will be the same.

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3. We will promote the use of new technologies for the development of the project: videos, interviews, PowerPoint, Keynote, Prezi ...
4. The language of the project is English.

Methodology considerations:

1. The different learning level will be taken into account depending on the work chosen, encouraging an active and participatory methodology, where individual work and cooperative work are considered.
2. A good planning and well organized work will be also taking into account.
3. The cooperative work will make students enhance social skills in the distribution of tasks and responsibilities. Moreover, students must learn to respect others' opinions.
4. Debates, presentations and discussions will be an important part of the project.
5. The acquisition criteria will be enhanced through the comparison and evaluation of the data and opinions gathered.
6. In short, the main goal of the project is to create a responsible, participatory and collaborative background.

DIDACTIC RESOURCES

The teaching resources are important and students must use information and communication technologies (ICT). The final work will be carried out by means of:

- a) Power Point presentations (including images and videos)
- b) Creation of a blog or a website.
- c) Creation of videos.
- d) Illustrative panels.
- e) Print and digital edition of advertisements.
- f) Digital photography.

Also, workspaces may be varied:

- a) Multipurpose classroom.
- b) ICT Classroom (available cannon and whiteboard).
- c) Library.
- d) Free space for trials (multipurpose room).

As pedagogical resources the following shall be applied:

- a) School-based consumables.

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- b) USB memory.
- c) Documentary films.
- d) Interesting Websites with content and information about “Cordovan Proportion”.