

Course Unit: **691504 - Mathematics in Real Life**

Year 1 Semester 1 ISCED Code: 14 ECTS: 6,0

Type of Course Unit: Compulsory Delivery Mode: Face-to-face Language of Instruction: Portuguese

COURSE COORDINATOR: Cesário Paulo Lameiras de Almeida

HOURS OF WORK

TOTAL HOURS	Contact Hours								Hours in autonomous work
	Theory	Theory and practice	Practical and laboratory work	Field work	Seminar	Internship	Tutorial guidance	Other	
150		50					25		75

Prerequisites (if applicable): <<Max 500 characters with spaces>>

LEARNING OUTCOMES (knowledge, skills and competence)

1. Understand the importance of mathematics as a tool for analysis and interpretation of everyday situations;
2. Promote the acquisition of information, knowledge and experience in mathematics in various fields of this area - Numbers and Operations, Geometry, Data Analysis and Organization, in different contexts and with recourse to various examples.
3. Recognize situations of day-to-day in which mathematics plays an important role in the development of citizens, with a view to training as being critical and participatory;
4. Understand the examples provided by the history of mathematics in solving numerous practical problems of everyday life
5. Develop projects of mathematical activities according to the utility and operability of this Science.

CONTENTS

1. The function of Numbers. The numbers of our Life
 - 1.1 Counting
 - 1.2 Sort
 - 1.3 Coding
 - 1.4 The numbers of our life (Body measurements, BMI, NIF, Barcode, ISBN, BI).
2. Geometry. Shapes Our Lives
 - 2.1 The different geometric shapes around us
 - 2.2 Art and Mathematics
3. Chance and Data Handling
 - 3.1 Uncertainty in everyday
 - 3.2 Games
 - 3.3 The representation and analysis of data (media, graphics, tables, quantitative indicators, forecasts)

DEMONSTRATION OF THE CONTENTS COHERENCE WITH THE COURSE UNIT'S LEARNING OUTCOMES

1. The function of Numbers. The numbers of our Life (Objs. 1-5)
 - 1.1 Counting

- 1.2 Sort
- 1.3 Coding
- 1.4 The numbers of our life (Body measurements, BMI, NIF, Barcode, ISBN, BI).
- 2. Geometry. Shapes Our Lives (Objs. 1-5)
 - 2.1 The different geometric shapes around us
 - 2.2 Art and Mathematics
- 3. Chance and Data Handling (Objs. 1-5)
 - 3.1 Uncertainty in everyday
 - 3.2 Games
 - 3.3 The representation and analysis of data (media, graphics, tables, quantitative indicators, forecasts)

TEACHING METHODOLOGIES

The methodologies used are preferably active , where students can , and should , make a significant contribution to the dynamics of living- class. We will seek , wherever possible , to support us in schemes , videos and pictures suggestive that will contribute to this important task of mathematics that is visualization.

In addition , the teaching methods applied in this uc , having , though , a few moments of lecturing by the teacher, point to holding small work sessions , stimulate debates and moments of reflection , in small and large group based on reading texts and viewing videos / photos / diagrams .

DEMONSTRATION OF THE COHERENCE BETWEEN THE TEACHING METHODOLOGIES AND THE LEARNING OUTCOMES

- Moments of lecturing by teacher (Objs. 2, 3 and 4)
- Stimulating debates and moments of reflection, in small and large group, based on reading texts and viewing of videos (Objs. 1-5)
- Conducting small work sessions (Objs. 1 and 5)

EVALUATION METHODS

The assessment has two modes:

1. Continuing through participation in the work developed in the classroom sessions
- 2 . Written work in groups and respective presentation.

The minimum grade admissible in both modalities , is 8 and the final 10

MAIN BIBLIOGRAPHY

- Alsina, A. (2004). Desenvolvimento de competências matemáticas com recursos lúdico-manipulativos. Porto Editora: Portugal.
- Alsina, C. (2010). A seita dos números – O teorema de Pitágoras. Espanha: RBA Coleccionables S.A. Corbalán, F. (2007). Matemáticas de la vida misma. Editorial GRAÓ: Barcelona.
- Crato, N. (2008). A Matemática das coisas. Lisboa: Gradiva Publicações. Clegg, F. (1995). Estatística para todos. Editora Gradiva: Lisboa.
- Palhares, P. (org.) (2004). Elementos de Matemática para professores do Ensino Básico. Lisboa: LIDEL – Edições Técnicas, Lda.
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