

Course Unit	Option IV - Mathematics and Technology			Field of study	Training in Teaching Area	
Bachelor in	Basic Education			School	School of Education	
Academic Year	2022/2023	Year of study	3	Level	1-3	ECTS credits 3.0
Туре	Semestral	Semester	2	Code	9853-531-3206-11-22	
Workload (hours)	81	Contact hours	T - Lectures; TP - Lectures a	27 PL - T and problem-solving; PL - Problem-	C - S - solving, project or laboratory; TC	E - OT 9 O - Fieldwork; S - Seminar, E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)

Manuel Celestino Vara Pires

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

- Identify digital educational resources that contribute to improving the teaching and learning process of mathematics.
 Select strategies for the integration of ICT in teaching mathematics.
 Evaluate digital resources to support teaching and learning of mathematics in terms of goals and content to develop mathematical process.
 Use ICT to support teaching and learning of mathematics in diverse educational settings.

Prerequisites

Before the course unit the learner is expected to be able to: Not applicable.

Course contents

1. Concepts and strategies for integrating ICT in supporting the study of mathematics. 2. Exploration and evaluation of ICT in teaching and learning of mathematics.

Course contents (extended version)

- Concepts and strategies for integrating ICT in supporting the study of mathematics

 Digital resources in mathematics education: Concept and characteristics
 Strategies for integration of ICT in the teaching and learning of mathematics

 Exploration and evaluation of ICT in teaching and learning of mathematics

 Selection and construction of digital resources for teaching and learning mathematics
 Exploration and evaluation of the ICT to support learning of mathematics in diverse contexts

Recommended reading

- Alves, T., & Carvalho, A. (Eds.) (2017). Mídias digitais e mediações interculturais. Amazon.
 Fonseca, D., & Redondo, E. (Eds.) (2016). Handbook of Research on Applied E-Learning in Engineering and Architecture. IGI Global.
 Moreira, J., Barros, D., & Monteiro, A. (2014). Educação a distância e eLearning na web social. White Books.
 Wilson, C., Grizzle, A., Tuazon, R., Akyempong, K., & Cheung, C.-K. (2013). Alfabetização midiática e informacional: Currículo para formação de professores. UNESCO/UFTM.

Teaching and learning methods

1. Exploration of themes using active learning methodologies, including project-based learning and problem-based learning. 2. Preparation of reports or research papers. 3. Discussion of topics in small or large groups. 4. Individual work or collaborative work. 5. Resolution of consolidation tasks of the topics covered in the course.

Assessment methods

- Continuous assessment (Regular, Student Worker) (Final)

 Intermediate Written Test 50% (Written summative test)
 Work Discussion 50% (Implementation and discussion of the proposed tasks or individual or group works)

 Assessment by examination (Regular, Student Worker) (Supplementary, Special)

 Final Written Exam 100%

Language of instruction

Portuguese

Electronic validation			
Manuel Celestino Vara Pires	Maria Cristina do Espírito Santo Martins	Elza da Conceição Mesquita	Carlos Manuel Costa Teixeira
12-12-2022	19-12-2022	20-12-2022	02-01-2023