

Course Unit	Dissertation / Project Work		Field of study	Educational Sciences	
Master in	Science Education		School	School of Education	
Academic Year	2020/2021	Year of study	2	Level	2-2
Type	Annual	Semester	-	ECTS credits	50.0
Code	5016-627-2001-00-20				
Workload (hours)	1 350	Contact hours	T -	TP -	PL -
			TC -	S -	E -
			OT 72	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Carlos Manuel Mesquita Morais, Delmina Maria Pires, Paulo Miguel Mafra Gonçalves

#### Learning outcomes and competences

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

1. Analyze results of recent research related to education in science and compare them with their own ideas then removing guidelines for own projects.
2. Formulate problems/questions within educational research.
3. Mobilize different knowledge in the planning of research projects suitable to defined problems.
4. Select samples and methodologies of data collection appropriate to the problems proposed.
5. Implement a research project.
6. Discuss data and draw conclusions from them.
7. Develop a thesis or a project work.

#### Prerequisites

Before the course unit the learner is expected to be able to:  
No pre-requisites.

#### Course contents

Some content to be considered in Course are not pre-defined, depends on the interests of research students. However, at the beginning of the Course, will discuss the procedures developed during the investigation, namely the construction and validation of data collection instruments, the discussion of the data and conclusions of research work and the final redaction of investigative work.

#### Course contents (extended version)

1. Procedures to consider in the course of research.
2. Texts production methods and scientific papers.
3. Collect relevant bibliographic information for the work to develop.
4. Formulating problems and research questions and preparation of the research proposal.
5. Sample selection and forecasting implementation strategies of investigative procedures.
6. Development and validation of data collection instruments.
7. Discussion of the data and conclusions of the investigative work.
8. Final wording of the research work.

#### Recommended reading

1. Bogdan, R., & Biklen, S. (1994). *Investigação qualitativa em educação - Uma introdução à teoria e aos métodos*. Porto: Porto Editora.
2. Coutinho, C. (2011). *Metodologia da Investigação em Ciências Sociais e Humanas: Teoria e Prática (2ª edição)*. Coimbra: Edições Almedina, S. A.
3. Fernandes, I., Pires, D., & Iglesias, J. (2017). *Ciência-Tecnologia-Sociedade-Ambiente nos Documentos Curriculares Portugueses de Ciências*. Revista Cadernos de Pesquisa, 47, 165, 998-1015.
4. Gonçalves, P. (2013). *Os Microrganismos no 1.º e 2.º CEB: Abordagem Curricular, Conceções Alternativas e Propostas de Atividades Experimentais*. Tese de Doutoramento. U Minho.
5. Pardal, L., & Lopes, E. (2011). *Métodos e técnicas de investigação social (2ª edição)*. Porto: Areal Editores.

#### Teaching and learning methods

Individual guidance of students in the implementation of research proposals and in the final wording of the research work (thesis or project work).

#### Assessment methods

1. Alternative 1: Continuous Evaluation - (Regular, Student Worker) (Final)  
- Development Topics - 100% (Public discussion of the thesis or project work.)
2. Assessment by examination, not apply - (Regular, Student Worker) (Supplementary, Special)

#### Language of instruction

Portuguese

#### Electronic validation

Carlos Manuel Mesquita Morais, Delmina Maria Pires, Paulo Miguel Mafra Gonçalves	Paulo Miguel Mafra Gonçalves	Delmina Maria Pires	António Francisco Ribeiro Alves
02-11-2020	03-11-2020	03-11-2020	03-11-2020