



UNIVERSITY OF NICOSIA ΠΑΝΕΠΙΣΤΗΜΙΟ ΛΕΥΚΩΣΙΑΣ

University of Nicosia, Cyprus

Course Code EDUP-241	Course Title Basic Concepts of Science Education in Pre-Primary Schools	ECTS Credits 6
Department Pedagogical Studies	Semester Fall	Prerequisites None
Type of Course Compulsory	Field Science Education	Language of Instruction Greek
Level of Course 1 st Cycle	Year of Study 2 nd	Lecturer(s) Dr Maria Evagorou
Mode of Delivery face-to-face	Work Placement N/A	Co-requisites None

Objectives of the course:

The main objectives of this course is that the students will:

- Explore what it means to be scientifically literate, think and act scientifically,
- Be involved in the process of collecting, analyzing, organizing and representing scientific data.
- Understand and explain various natural phenomena.
- Develop scientific method and scientific thinking skills.
- Take into account multiple ways of using the technology as a means to help them further develop their scientific knowledge.
- Develop a positive attitude towards science.
- Understand how some of the scientific concepts and the scientific method can be applied with pre-primary school students.

Learning outcomes:

With the completion of the course the students will be able to:

- Use and apply the various scientific constructs that were taught (electricity, magnetism, light and color, sink/float).
- Apply the scientific method in new scientific constructs.
- Design experiments (appropriate for younger students) that can help them explain a natural phenomenon.
- Demonstrate their understanding of electricity, magnetism, light and color and buoyancy through the application in new contexts.
- Compare their own experiments with those of the others and discuss the differences.
- Demonstrate their understanding of the scientific methodology.

Course content:

1. The scientific process
2. Scientific methods skills
a. Observations of natural phenomena
b. Hypothesis construction and comparison with initial observations
c. Predictions based on hypothesis
d. Designing experiments, collecting data and reporting the explanations
3. Basic scientific concepts:
a. magnets
b. senses
c. properties of matter
d. day/night cycle
e. Sink/Float
f. mirrors
g. shadows
h. sound

Learning activities and teaching methods:

Lecture, workshops, experiential seminars, individual and group work, individual feedback, student presentations
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Assessment methods:

Formative assessment, feedback, individual research, collaborative work, presentations, discussions

Required textbooks/reading:

Authors	Title	Publisher	Year	ISBN
Evagorou, M.	<i>EDUE 240 Notes (in Greek)</i>	UNIC	2010	N/A

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Κωνσταντίνου, Κ. Π., Φερωνύμου, Γ., Κυριακίδου, Ε., Νικολάου, Χρ	Φυσικές Επιστήμες στο Νηπιαγωγείο: Βοήθημα για τη Νηπιαγωγό.	Υπουργείο Παιδείας και Πολιτισμού Κύπρου, Λευκωσία	2004	N/A