

SCIENCE AND MATH EDUCATION IN EARLY CHILDHOOD

1	Course Title:	SCIENCE AND MATH EDUCATION IN EARLY CHILDHOOD
2	Course Code:	ÇCKZ214
3	Type of Course:	Compulsory
4	Level of Course:	Short Cycle
5	Year of Study:	2
6	Semester:	4
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	NONE
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr.Gör. Aysun YÖNEL
15	Course Lecturers:	Meslek Yüksekokulları Yönetim Kurullarının görevlendirdiği öğretim elemanları
16	Contact information of the Course Coordinator:	Öğr. Gör. Dr. Aysun YÖNEL yonel@uludag.edu.tr
17	Website:	
18	Objective of the Course:	The aim of this course is to know science and mathematical concepts, comprehend scientific and mathematical thinking skills, be aware of early childhood science and mathematics education and its importance, understand appropriate methods and techniques in teaching science mathematics concepts, plan, apply and evaluate scientific and mathematical activities which are developed for preschool children, and have knowledge about various science and mathematics education programs.
19	Contribution of the Course to Professional Development:	Graduate students know the development of scientific and mathematical thinking skills in early childhood. Explain different approaches regarding the development of scientific and mathematical thinking. Use appropriate methods and techniques in teaching scientific and mathematical concepts. Make arrangements in activities in accordance with the development of children. Examine and evaluate preschool science and math program.
20	Learning Outcomes:	
	1	To have field knowledge in early childhood science and mathematics education;
	2	To be able to know the importance of science and mathematics education in pre-school period;
	3	To be able to explain the development of science and mathematics concepts in preschool period;
	4	To be able to use appropriate methods and techniques in teaching science and mathematical concepts;
	5	To be able to use appropriate methods and techniques in teaching science and mathematical concepts;
	6	To be able to use appropriate methods and techniques in teaching science and mathematical concepts;
	7	To be able to apply by making arrangements in activities in accordance with the development of children;
	8	Translation results To be able to evaluate the science and mathematics activities that are prepared and ready ;

		9	
		10	
21	Course Content:		
	Course Content:		
Week	Theoretical	Practice	
1	Theoretical foundations of science and mathematics in early childhood and its importance in daily life		
2	Principles and standards in science and mathematics education		
3	Development of scientific and mathematical thinking and science-mathematical concepts in children		
4	Alternative science and math programs used for early childhood children around the world		
5	Alternative science and math programs used for early childhood children around the world		
6	The effect of math education activities on children's development		
7	Development of scientific process skills in early childhood		
8	midexam		
9	Learning centers for science education and the quality of their material		
10	The role of the teacher, family and society in science and mathematics education		
11	Planning, implementing and evaluating science and math activities		
12	Planning, implementing and evaluating science and math activities		
13	Examining science and mathematics materials and developing science-mathematics education materials-Integrating material with activity		
14	Examples of activities to develop science-mathematics concepts in pre-school education		

22	Textbooks, References and/or Other Materials:	<p>Akman, B. (Ed.) (2010). Pre-school math education. Ankara: PegemA Publishing.</p> <p>Akman, B., Uyanık Balat, G., & Güler Yıldız, T. (2019). Science Education in Early Childhood (7th Edition). Ankara: Anı Publishing</p> <p>Aksüt, P. (2020). Science Education in Early Childhood. Ankara: Nobel Academic Publishing</p> <p>Aktaş Arnas Y, 2004. Mathematics Education in Preschool Period. Nobel Bookstore, Adana.</p> <p>Durmaz, B. (2019). Early Childhood Mathematics Education, Ankara: Pegem Academy</p> <p>Güven, Y. (2000). Intuitive thinking and mathematics in early childhood, Istanbul: Yapa Yayıncılık</p> <p>Güven, Y. (2005). Learning mathematical thinking and mathematics in early childhood. Istanbul: Small steps educational publications</p> <p>Kandir, A., Can Yaşar, M., Yazıcı, E., Türkoğlu, D., & Yaman Baydar, I. (2016). Mathematics in Early Childhood Education. Istanbul: Morpa Cultural Publications.</p> <p>Orhan, A. T. (2018). Science education in early childhood, Ankara: Eğiten Kitap</p> <p>Şahin, F. (2020). Science education in pre-school period. Ankara: Hedef Publishing</p> <p>Uluçınar Sağır, Ş. and Kurt, M. (2019). Science education in early childhood (Teacher's handbook with examples of activities), Ankara: Eğiten Kitap</p> <p>Ulutaş, İ. (Ed.) (2015). Mathematics education in pre-school period. Ankara: Hedef Publishing</p>
-----------	---	---

23	Assesment	
TERM LEARNING ACTIVITIES	NUMBE R	WEIGHT
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade	40.00	
Contribution of Final Exam to Success Grade	60.00	
Total	100.00	
Measurement and Evaluation Techniques Used in the Course	Measurement and evaluation are carried out according to the principles of Uludağ University Associate and Undergraduate Education and Training Regulation.	

24	ECTS / WORK LOAD TABLE
-----------	-------------------------------

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	4.00	56.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	1.00	1.00
Others	0	0.00	0.00
Final Exams	1	1.00	1.00
Total Work Load			86.00
Total work load/ 30 hr			2.87
ECTS Credit of the Course			3.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	3	1	3	0	4	0	1	1	3	0	3	5	3	5	4
ÖK2	3	1	3	2	4	5	1	2	2	2	3	3	1	3	3	2
ÖK3	2	2	2	2	2	2	5	1	1	5	5	5	3	2	5	5
ÖK4	3	3	3	3	3	3	3	3	3	3	3	2	3	3	4	5
ÖK5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ÖK6	1	1	1	0	1	1	1	1	0	1	1	0	0	0	0	0
ÖK7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			