

## SCIENCE AND MATHS IN PRESCHOOL

1	Course Title:	SCIENCE AND MATHS IN PRESCHOOL
2	Course Code:	OKU5111
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
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:	Dr. Öğr. Üyesi MERAL TANER DERMAN
15	Course Lecturers:	Dr. Öğr. Üyesi Meral TANER DERMAN
16	Contact information of the Course Coordinator:	Dr. Öğr. Üyesi Meral TANER DERMAN mtaner@uludag.edu.tr 0224 2942184 Adres: Bursa Uludağ Üniversitesi Eğitim Fakültesi Temel Eğitim Bölümü Görükle Yerleşkesi Nilüfer / Bursa
17	Website:	
18	Objective of the Course:	The aim of this course is to help early childhood education graduate students 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 advanced 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 examine and evaluate preschool science and mathematics programs
	6	Being able to apply the concepts of science and mathematics by integrating with other activities

		7	To be able to apply by making arrangements in activities in accordance with the development of children		
		8	75 / 5000 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	The effect of science education activities on children's development				
6	The effect of math education activities on children's development				
Activites			Number	Duration (hour)	Total Work Load (hour)
Theoretical	the quality of their materials		14	2.00	28.00
9	Inquiry-based science education approach				
Practicals/Labs			0	0.00	0.00
10	The role of the teacher, family and society in science and mathematics education		14	3.00	42.00
Homeworks			4	4.00	16.00
Projects	preschool science and mathematics education		1	2.00	2.00
Field Studies			0	0.00	0.00
Midterm exams	science and math activities		1	1.00	1.00
Others			0	0.00	0.00
Final Exams	materials and developing science mathematics education materials-Integrating		1	1.00	1.00
Total Work Load					90.00
14	Examples of activities to develop science-mathematics concepts in pre-school				3.00
ECTS Credit of the Course					3.00

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., &amp; 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>Kandır, A., Can Yaşar, M., Yazıcı, E., Türkoğlu, D., &amp; 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>
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ÖK2	5	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
ÖK3	5	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
ÖK4	5	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
ÖK5	5	1	5	1	1	1	1	0	0	0	0	0	0	0	5	0
ÖK6	1	1	1	1	1	1	5	0	0	0	0	0	0	0	0	0
ÖK7	1	1	1	1	1	1	5	0	0	0	0	0	0	0	0	0
ÖK8	1	1	1	5	1	1	1	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			