Course Syllabus

Code - Course Title	**İMÖ407 - Development of Algebraic Thinking in Elemantary School**
Course Type	V. SEMESTER
Laboratory + Practice	3+0
ECTS	**4.0**
Language of Instruction	Türkçe
Course Type	Elective Course
Course Instructor(s)	PROF. DR. DİLEK TANIŞLI

Mode of Delivery	The mode of delivery of this course is Face to face
Prerequisites	There is no prerequisite or co-requisite for this course.
Courses Recomended	Mathematics Teaching
Recommended Resources	Bednarz, N., Kieran, C. And Lee L. (1996). Approaches to algebra: perspectives for research and teaching. Kluwer Academic. Blanton, M. L. (2008). Algebra and the elementary classrom. Transforming thinking, transforming practice. Portsmouth, NH : Heinemann. Blanton, M., & Kaput, J. (2004). Elementary grades students' capacity for functional thinking. In M. J. Hoynes, & A. B. Fuglestad (Ed.), Proceedings of the 28th Conference of the International Group for the Psychology of Mathematics Education, Vol. 2, pp. 135-142. Bergen, Norway: International Group for the Psychology of Mathematics Educational. Driskoll, M. (1999). Fostering algebraic thinking: a guide for teachers, grades 6-10. Portsmouth, NH : Heinemann. NCTM. (1999). Algebraic Thinking, grades K-12. Reston, Virginia.
Work Placement	Not Applicable

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 1		The nature of algebraic thinking Describe of algebra and algebraic thinking	
Week - 2		components of algebraic thinking	
Week - 3		Transition from arithmetic to algebra Relational thinking	
Week - 4		Basic concepts of algebraic thinking Patterns and Relationhips	
Week - 5		Basic concepts of algebraic thinking functional thinking	
Week - 6		Basic concepts of algebraic thinking Functional thinkig	
Week - 7		Basic concepts of algebraic thinking Generalization	
Week - 8		Basic concepts of algebraic thinking generalization	
Week - 9		Basic concepts of algebraic thinking multiple representations and modeling	
Week - 10		variable and algebraic expressions	

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Weeks	Learning Outcomes	Topics	Teaching Methods
Week - 11		equaility, equation and inequality	
Week - 12		The students diffuculties in algebraic Thinking	
Week - 13		The studentsmisconceptions in algebraic Thinking	
Week - 14		Evaluation of algebraic thinking	

Learning Outcomes

#	Learning Outcome
1	explain algebra and algebraic thinking.
2	will be to investigate transition from arithmetic to algebra, quantitative reasoning and the development of algebraic reasoning
3	analyze the basic concepts of algebraic thinking.
4	investigate the algebraic thinking student difficulties and misconceptions
5	apply methods and techniques used to assess algebraic thinking.

Sustainable Development Goals

No content has been provided.

Course Theme

No content has been provided.

AKTS Workload

Activity	Duration (Hour)	Count	Workload
Teorik Derse Katılım	0	0	0
Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı)	0	0	0
Ödevler	0	0	0
Proje - Rapor - Sunum Hazırlama	0	0	0
Ara Sınav Hazırlığı (sınav süresi dahil)	0	0	0
Final Sınavı Hazırlığı (sınav süresi dahil)	0	0	0
Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.)	0	0	0
Staj Uygulaması	0	0	0
		Calculated ECTS	**0**

Assessment Method and Passing Requirements

No content has been provided.

Assessment Method and Passing Requirements	Quamtity	Percentage (%)
1.Midterm Exam	1	40
Final Exam	1	60
	Sum (%)	**100**