School of Education / Special Education Teaching

2022 - 2023 Academic Year

TEACHING MATHS in SPECIAL EDUCATION

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
TEACHING MATHS in SPECIAL EDUCATION	ÖE3112372	Fall Semester	3+0	3	3

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	Turkish
Course Level	First Cycle (Bachelor's Degree)
Course Type	Required
Course Coordinator	Assist.Prof. Özge ÖZLÜ ÜNLÜ
Name of Lecturer(s)	Assist.Prof. Özge ÖZLÜ ÜNLÜ
Assistant(s)	
Aim	Within the scope of this course, the following topics will be covered: teaching mathematical skills and concepts to students with special needs; determining the educational needs of the students and planning, implementing and evaluating the education according to the determined needs.
Course Content	This course contains; Content (learning domains) and process (skill) standards in mathematics teaching and factors affecting mathematics teaching of students with special needs.,Development of assessment and criterion-dependent tests in mathematics teaching,The importance and practice of operation and error analysis in mathematics teaching,Approaches used in teaching mathematics to students with special needs: Direct teaching method.,Approaches used in teaching mathematics to students with special needs: Direct teaching method.,Techniques and strategies used in teaching mathematics.,Application of Mathematics Program. Counting skills, number symbols and meanings,Application of Mathematics Program. Counting skills, number symbols and meanings,Teaching addition and subtraction skills,Teaching multiplication and division skills,Teaching problem solving skills,Developing basic measurement concepts and skills: length measures, weight measures, time measures, money skills,Teaching geometry concepts and skills: Two and three dimensional shapes, data analysis, development of statistical skills and concepts,Adaptations for teaching mathematics in inclusion classrooms; evidence based practice in teaching mathematics.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
At the end of this course, the student will be able to demonstrate the following knowledge and skills related to mathematics teaching in special education: Explains and exemplify the planning process of mathematics teaching;	1, 2, 4	A
Explains and exemplifies the process of evaluating mathematical skills and concepts;	1, 2, 4	A
Defines layered instruction and direct instruction approaches; Explains and exemplifies problem solving skills development, application of mathematics program, teaching counting, addition, subtraction, multiplication, division operations;	1, 2, 4	A
Explains and exemplifies error types and analysis in mathematics teaching;	1, 2, 4	A
Explains and exemplifies the teaching of functional mathematics skills;	1, 2, 4	A
Explains and exemplifies teaching ways of value (money), time, length and weight measures, geometry concepts and skills.	1, 2, 4	A

Teaching Methods	1: Lecture, 2: Question - Answer, 4: Exercise, Practice
Assessment Methods	A: Written Exam

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Content (learning domains) and process (skill) standards in mathematics teaching and factors affecting mathematics teaching of students with special needs.	Gürsel (ed) (2017) Part 1, s.1-22.
2	Development of assessment and criterion-dependent tests in mathematics teaching	Gürsel (ed) (2017) Part 2, s. 23-54.
3	The importance and practice of operation and error analysis in mathematics teaching	Gürsel (ed) (2017) Part 2, s. 23-54.
4	Approaches used in teaching mathematics to students with special needs: Direct teaching method.	Gürsel (ed) (2017) Part 4, s. 83-116.
5	Approaches used in teaching mathematics to students with special needs: Direct teaching method.	Yıkmış (2015) Part 1, s. 7-27.
6	Techniques and strategies used in teaching mathematics.	Gürsel (ed) (2017) Part 5, s. 117-140.
7	Application of Mathematics Program. Counting skills, number symbols and meanings	Gürsel (ed) (2017) Part 8, s. 207-238.
8	Application of Mathematics Program. Counting skills, number symbols and meanings	Yıkmış (2015) Part 2, s. 49-53.
9	Teaching addition and subtraction skills	Gürsel (ed) (2017), Part 9-10, s. 239-310; Yıkmış, (2015), Part 2, s 62-85.
10	Teaching multiplication and division skills	Gürsel (ed) (2017), Part 11-12, s. 311-366; Yıkmış, (2015), Part 2, s 86-95.
11	Teaching problem solving skills	Gürsel (ed) (2017), Part 6, s. 141-165.
12	Developing basic measurement concepts and skills: length measures, weight measures, time measures, money skills	Gürsel (ed) (2017), Part 13, s. 367-404; Yıkmış, (2015), Part 2, s 96-104.
13	Teaching geometry concepts and skills: Two and three dimensional shapes, data analysis, development of statistical skills and concepts	Gürsel (ed) (2017), Part 14, s. 405-444; Yıkmış, (2015), Part 2, s 44-48.
14	Adaptations for teaching mathematics in inclusion classrooms; evidence based practice in teaching mathematics	Gürsel (ed) (2017) Part 5, s. 117-140.

Evaluation Methods	**Weight(%)**
Midterm Exam	40
General Exam	60

Resources
*Altun. M.(2000) Matematik Öğretimi. 8. Baskı, Bursa, Alfa Yayınları. *Baykul, Y.(2001) İlöğretimde Matematik Öğretimi. Ankara, Elit Yayıcılık. *Baykul, Y., ve P. Aşkar. (1982). Matematik Öğretimi "Özel Öğretim Yöntemleri" Ana. Üni. Açıköğretim Fakültesi Yayınları No: 94 Ankara, *Baykul, Yaşar. (1997). İlköğretimde Matematik Öğretimi. Elit Yayıncılık, Ankara, *Baykul, Yaşar. (2001). İlköğretimde Matematik Öğretim. İlköğretimde Etkili Öğretme ve Öğrenme Öğretmen El Kitabı. Modül 6., MEB. Ankara, *Erdener, Sabahattin. İlkokul Matematik Kılavuzu. M.E. Basımevi, İstanbul, 1970. *Gürsel, Oğuz. (2010) Matematik Öğretimi. (Editör, İbrahim H. Diken) İlköğretimde Kaynaştırma. Pegem Akademi, Ankara. *Gürsel, Oğuz. (1993). Zihinsel Engelli Çocukların Doğal Sayıları Gerçek Nesneleri Kullanarak Eşleme, Resimleri İşaret Ederek Gösterme, Rakamlar Gösterildiğinde Söyleme Becerilerinin Gerçekleştirilmesinde Bireyselleştirilmiş Öğretim Materyalinin Basamaklandırılmış Yöntemle Sunulmasının Etkililiği. Anadolu Üniversitesi Sosyal Bilimler Enstitüsü. Eskişehir, *Gürsel, Oğuz. (2017) Özel Gereksinimli Öğrencilere Matematik Beceri ve Kavramlarının Öğretimini Planlama ve Uygulama. (Editör, Oğuz Gürsel) İlköğretimde Kaynaştırma. Vize Yayıncılık, Ankara. *Milli Eğitim Bakanlığı. (2005). İlköğretim Matematik Dersi Öğretim Programı ve Kılavuzu (1-5 Sınıflar), Devlet Kitapları Müdürlüğü, Ankara. *Oklun, S. ve Z. Toluk. İlköğretimde Etkinlik Temelli Matematik Öğretimi. Anı Yayıncılık, Ankara, 2003. *Yıkmış, Ahmet. (2005). Etkileşime Dayalı Matematik Öğretimi. Kök Yayıncılık, Ankara.