

## GENEL TANIM / GENERAL DESCRIPTION

Ders Adı / Course Name	General Mathematics / General Mathematics	
Ders Kodu / Course Code	MT101B	
Ders Türü / Course Type		
Ders Seviyesi / Course Level	Bachelor Degree / Bachelor Degree	
Ders Akts Kredi / ECTS	8.00	
Haftalık Ders Saati (Kuramsal) / Course Hours For Week (Theoretical)	4.00	
Haftalık Uygulama Saati / Course Hours For Week (Objected)	2.00	
Haftalık Laboratuar Saati / Course Hours For Week (Laboratory)	0.00	
Dersin Verildiği Yıl / Year	1	
Öğretim Sistemi / Teaching System	Normal Education / Normal Education	
Eğitim Dili / Education Language	Turkish / Turkish	
Ön Koşulu Olan Ders(ler) / Precondition Courses	Yok	None
Amacı / Purpose	Kümelerde işlemleri kavramak. Farklı Fonksiyonları ve Kullanım amaçlarını öğrenmek. Üç boyutlu cisimleri tanımak.	Examining one real-variable and real-value functions and interpreting their diagrams, reinforcing the concepts of limit, continuity and derivative and making applications and interpretations on them, transferring the knowledge obtained in this course to other courses
İçeriği / Content	Önbilgilerin hatırlatılması, Küme kavramı ve kümelerle işlemler, Trigonometrik ve Ters trigonometrik fonksiyonlar, Logaritmik fonksiyonlar, Gerçek sayılar ve özellikleri, Fonksiyonlar, limit, süreklilik, türev ve uygulamaları, Hiperbolik ve ters hiperbolik fonksiyonlar, Integral, Belirli ve Belirsiz Integral, Temel Integral teoremleri, 3 boyutlu cisimler, Yüzeyler ve Uzay geometri, Katı cisimlerin alan ve hacimleri.	The concept of limit and its applications in single-variable functions. Continuity in single-variable functions and its applications, sorts of transitoriness. The concept of derivative in single-variable functions and the rules of taking a derivative. Trigonometric, logarithmic, exponential and hiperbolic functions, and the derivatives of their opposites and the closed functions. High-level derivatives. Extremum and absolute extremum points of functions, extremum problems and their applications in different areas. Rolle and Average Value Theorems. Finite Taylor Theorem. L? Hospital Theory and limit calculations by the help of this theory. Differential and linear increase. The concept of integral, indefinite integrals, integral-taking techniques, definite integrals, area and volume calculations with a certain integral and its applications in various fields
Önerilen Diğer Hususlar / Recommended Other Considerations	Yok	None
Staj Durumu / Internship Status	Yok	None

Kitabı / Malzemesi / Önerilen Kaynaklar / Books / Materials / Recommended Reading	Balcı,M; 2003, Genel Matematik I, Balcı Yayınları, Ankara.	Demir, H. 2008; Teori ve Problemleri ile Analiz I, Pegem, Ankara. Balcı, M. 2008; Matematik Analiz I, Balcı Yayınları, Ankara. Özdeğer, A, 1996 Çözümlü Analiz Problemleri Cilt 1, İstanbul Özdeğer, A, 1996 Çözümlü Analiz Problemleri Cilt 2, İstanbul Hacısalihoğlu, H,H, 2003 Temel ve Genel Matematik, Cilt 1, Ankara
Öğretim Üyesi (Üyeleri) / Faculty Member (Members)	Prof. Dr. Rabil AYAZOĞLU	

### ÖĞRENME ÇIKTILARI / LEARNING OUTCOMES

1		Know real numbers and its properties, use real number axis and interval.
2		Understand relationship between square root and absolute value.
3		Provide with induction method.
4		Understand function and types of function.
5		Make operations with complex numbers and make operations with them.

### HAFTALIK DERS İÇERİĞİ / DETAILED COURSE OUTLINE

Hafta / Week					
1	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	The concept of limit and its applications in single-variable functions				
	The concept of limit and its applications in single-variable functions				
2	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	The concept of limit and its applications in single-variable functions.				
	The concept of limit and its applications in single-variable functions.				
3	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	Continuity in single-variable functions and its applications, sorts of transitoriness				
	Continuity in single-variable functions and its applications, sorts of transitoriness				
4	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	The concept of derivative in single-variable functions and the rules of taking a derivative.				
	The concept of derivative in single-variable functions and the rules of taking a derivative.				
5	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	The concept of derivative in single-variable functions and the rules of taking a derivative.				
	The concept of derivative in single-variable functions and the rules of taking a derivative.				

6	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	Trigonometric, logarithmic, exponential and the derivatives of their opposites and the closed functions.				
	Trigonometric, logarithmic, exponential and the derivatives of their opposites and the closed functions.				
7	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	Hiperbolic functions, and the derivatives of their opposites and the closed functions				
	Hiperbolic functions, and the derivatives of their opposites and the closed functions				
8	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	Extremum and absolute extremum points of functions, extremum problems and their applications in different areas.				
	Extremum and absolute extremum points of functions, extremum problems and their applications in different areas.				
9	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	Mid-term exam				
	Mid-term exam				
10	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	Rolle and Average Value Theorems. Finite Taylor Theorem.				
	Rolle and Average Value Theorems. Finite Taylor Theorem.				
11	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	L' Hospital Theory and limit calculations by the help of this theory.				
	L' Hospital Theory and limit calculations by the help of this theory.				

12	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	Differential and linear increase.				
	Differential and linear increase.				
13	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	The concept of integral, indefinite integrals, integral-taking techniques, definite integrals, area and volume calculations with a certain integral and its applications in various fields.				
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14	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	The concept of integral, indefinite integrals, integral-taking techniques, definite integrals, area and volume calculations with a certain integral and its applications in various fields.				
	The concept of integral, indefinite integrals, integral-taking techniques, definite integrals, area and volume calculations with a certain integral and its applications in various fields.				
15	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	The concept of integral, indefinite integrals, integral-taking techniques, definite integrals, area and volume calculations with a certain integral and its applications in various fields.				
	The concept of integral, indefinite integrals, integral-taking techniques, definite integrals, area and volume calculations with a certain integral and its applications in various fields.				
16	Teorik Dersler / Theoretical	Uygulama	Lab	Öğretim Yöntem ve Teknikleri/Teaching Methods Techniques	Ön Hazırlık / Preliminary
	End-of-term exam				
	End-of-term exam				

## DEĞERLENDİRME / EVALUATION

Yarıyıl (Yıl) İçi Etkinlikleri / Term (or Year) Learning Activities	Sayı / Number	Katkı Yüzdesi / Percentage of Contribution (%)
Ara Sınav / Midterm Examination	1	100
Toplam / Total:	1	100
Başarı Notuna Katkı Yüzdesi / Contribution to Success Grade(%):		40

  

Yarıyıl (Yıl) Sonu Etkinlikleri / End Of Term (or Year) Learning Activities	Sayı / Number	Katkı Yüzdesi / Percentage of Contribution (%)
Final Sınavı / Final Examination	1	100
Toplam / Total:	1	100
Başarı Notuna Katkı Yüzdesi / Contribution to Success Grade(%):		60

  

Etkinliklerinin Başarı Notuna Katkı Yüzdesi(%) Toplamı / Total Percentage of Contribution (%) to Success Grade:	100
Değerlendirme Tipi / Evaluation Type:	

## İŞ YÜKÜ / WORKLOADS

Etkinlikler / Workloads	Sayı / Number	Süresi (Saat) / Duration (Hours)	Toplam İş Yüğü (Saat) / Total Work Load (Hour)
Ara Sınav / Midterm Examination	1	1.00	1.00
Final Sınavı / Final Examination	1	1.00	1.00
Derse Katılım / Attending Lectures	14	6.00	84.00
Bireysel Çalışma / Self Study	14	6.00	84.00
Ara Sınav İçin Bireysel Çalışma / Individual Study for Mid term Examination	6	5.00	30.00
Final Sınavı için Bireysel Çalışma / Individual Study for Final Examination	10	4.00	40.00
Toplam / Total:	46	23.00	240.00
Dersin AKTS Kredisi = Toplam İş Yüğü (Saat) / 30.00 (Saat/AKTS) = 240.00/30.00 = 8.00 ~ 8.00 / Course ECTS Credit = Total Workload (Hour) / 30.00 (Hour / ECTS) = 240.00 / 30.00 = 8.00 ~ 8.00			

PROGRAM VE ÖĞRENME ÇIKTISI / PROGRAM LEARNING OUTCOMES

Öğrenme Çıktıları / Learning Outcomes	Program Çıktıları / Program Outcomes									
	1.1.1	1.1.2	1.1.3	2.1.1	3.1.1	3.2.1	3.3.1	3.3.2	3.4.1	3.4.2
1. / Know real numbers and its properties, use real number axis and interval.										
2. / Understand relationship between square root and absolute value.										
3. / Provide with induction method.										
4. / Understand function and types of function.										
5. / Make operations with complex numbers and make operations with them.										

Katkı Düzeyi / Contribution Level : 1-Çok Düşük / Very low, 2-Düşük / Low, 3-Orta / Moderate, 4-Yüksek / High, 5-Çok Yüksek / Very high