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FEN FAKÜLTESİ / FACULTY OF SCIENCE
KİMYA LİSANS PROGRAMI - CHEM / CHEMISTRY
UNDERGRADUATE PROGRAM - CHEM

1. LİSANS PROGRAMI / UNDERGRADUATE PROGRAM
1.1. MÜFREDAT / CURRICULUM

Birinci Yıl / First Year					
Güz Dönemi / Fall Semester					
Ders Kod / Course Code	Ders Adı / Course Name	Saatler / Hours		Kredi / Credits	
		Ders / Lecture	Lab / Stüdyo / Diğer / Lab / Studio / Others	Bilkent	ECTS
CHEM 101	Kimyanın Temelleri I / Principles of Chemistry I	3	4	4	6.5
CHEM 120	Kimya Öğrencileri İçin Üniversite Hayatına Giriş / Orientation for Chemistry Majors	1	0	1	2
ENG 101	İngilizce ve Kompozisyon I / English and Composition I	5	0	3	5
GE 100	Üniversite Hayatına Giriş / Orientation	0	0	1	2
MATH 101	Matematik I / Calculus I	4	0	4	6.5
PHYS 101	Genel Fizik I / General Physics I	3	3	4	6.5
TURK 101	Türkçe I / Turkish I	0	0	2	3.5
Bahar Dönemi / Spring Semester					
Ders Kod / Course Code	Ders Adı / Course Name	Saatler / Hours		Kredi / Credits	
		Ders / Lecture	Lab / Stüdyo / Diğer / Lab / Studio / Others	Bilkent	ECTS
CHEM 102	Kimyanın Temelleri II / Principles of Chemistry II	3	4	4	6.5
ENG 102	İngilizce ve Kompozisyon II / English and Composition II	5	0	3	5
MATH 102	Matematik II / English and Composition II	4	0	4	6.5
PHYS 102	Genel Fizik II / General Physics II	3	3	4	6.5
TURK 102	Türkçe II / Turkish II	0	0	2	3.5

İkinci Yıl / Second Year					
Güz Dönemi / Fall Semester					
Ders Kod / Course Code	Ders Adı / Course Name	Saatler / Hours		Kredi / Credits	
		Ders / Lecture	Lab / Stüdyo / Diğer / Lab / Studio / Others	Bilkent	ECTS
CHEM 211	Analitik Kimya I / Analytical Chemistry I	3	0	3	5
CHEM 231	Organik Kimya I / Organic Chemistry I	3	0	3	5
CHEM 235	Organik Kimya Laboratuvarı I / Organic Chemistry Laboratory I		4	2	3.5
CS 115	Python ile Programlamaya Giriş / Introduction to Programming in Python	3	4	4	6.5
GE 250	Üniversite Etkinlik Programı I / Collegiate Activities Program I	0	0	0	1
MBG 110	Modern Biyolojiye Giriş / Introduction to Modern Biology	3	0	3	5
Bahar Dönemi / Spring Semester					
Ders Kod / Course Code	Ders Adı / Course Name	Saatler / Hours		Kredi / Credits	
		Ders / Lecture	Lab / Stüdyo / Diğer / Lab / Studio / Others	Bilkent	ECTS
CHEM 212	Analitik Kimya II / Analytical Chemistry II	3	0	3	5
CHEM 213	Analitik Kimya Laboratuvarı I / Analytical Chemistry Laboratory I		4	2	3.5
CHEM 232	Organik Kimya II / Organic Chemistry II	3	0	3	5
CHEM 236	Organik Kimya Laboratuvarı II / Organic Chemistry Laboratory II		4	2	3.5
GE 251	Üniversite Etkinlik Programı II / Collegiate Activities Program II	0	0	1	2
HIST 200	Türkiye Tarihi / History of Turkey	3	0	4	6.5
MATH 225	Doğrusal Cebir ve Türevsel Denklemler / Linear Algebra and Differential Equations	4	0	4	6.5

Üçüncü Yıl / Third Year					
Güz Dönemi / Fall Semester					
Ders Kod / Course Code	Ders Adı / Course Name	Saatler / Hours		Kredi / Credits	
		Ders / Lecture	Lab / Stüdyo / Diğer / Lab / Studio / Others	Bilkent	ECTS
CHEM 214	Analitik Kimya Laboratuvarı II / Analytical Chemistry Laboratory II		4	2	3.5
CHEM 320	Fizikokimya Laboratuvarı / Physical Chemistry Laboratory	1	4	3	5
CHEM 323	Fizikokimya I / Physical Chemistry I	3	0	3	5
CHEM 327	Kuantum Kimyası I / Quantum Chemistry I	3	0	3	5
CHEM 341	Anorganik Kimya I / Inorganic Chemistry I	3	0	3	5
COMD 358	Profesyonel İletişim / Professional Communication	3	0	3	5
HUM 111	Kültürler, Medeniyetler ve Düşünceler I / Cultures Civilizations and Ideas I	3	0	3	5
Bahar Dönemi / Spring Semester					
Ders Kod / Course Code	Ders Adı / Course Name	Saatler / Hours		Kredi / Credits	
		Ders / Lecture	Lab / Stüdyo / Diğer / Lab / Studio / Others	Bilkent	ECTS
CHEM 324	Fizikokimya II / Physical Chemistry II	3	0	3	5
CHEM 328	Kuantum Kimyası II / Quantum Chemistry II	3	0	3	5
CHEM 340	Anorganik Kimya Laboratuvarı / Inorganic Chemistry Laboratory	0	4	3	5
CHEM 342	Anorganik Kimya II / Inorganic Chemistry II	3	0	3	5
HUM 112	Kültürler, Medeniyetler ve Düşünceler II / Cultures Civilizations and Ideas II	3	0	3	5
	Temel Sanat Seçmeli Dersi / Arts Core Elective			3	

Dördüncü Yıl/ Fourth Year					
Güz Dönemi/ Fall Semester					
Ders Kod/ Course Code	Ders Adı/ Course Name	Saatler/ Hours		Kredi/ Credits	
		Ders/ Lecture	Lab/ Stüdyo/ Diğer/ Lab/ Studio/ Others	Bilkent	ECTS
CHEM 399	Yaz Stajı / Summer Practice	0	0	0	7
CHEM 450	Uygulamalı Kuantum Kimyası / Applied Quantum Chemistry	3	0	3	5
CHEM 461	Biyokimyanın Temelleri / Fundamentals of Biochemistry	3	0	3	5
	Proje Seçmeli Ders / Project Elective			4	6
	Teknik Seçmeli Ders (2) / Technical Elective (2)			6	
Bahar Dönemi/ Spring Semester					
Ders Kod/ Course Code	Ders Adı/ Course Name	Saatler/ Hours		Kredi/ Credits	
		Ders/ Lecture	Lab/ Stüdyo/ Diğer/ Lab/ Studio/ Others	Bilkent	ECTS
CHEM 422	İstatistiksel Termodinamiğe Giriş / Introduction to Statistical Thermodynamics	3	0	3	5
	Temel Sosyal Bilimler Seçmeli Dersi / Social Science Core Elective			3	
	Teknik Seçmeli Ders (2) / Technical Elective (2)			6	
	Sınırsız Seçmeli Ders / Unrestricted Elective			3	

2. PROGRAM ÇIKTILARI / PROGRAM OUTCOMES

2.1. PROGRAM ÇIKTILARININ LİSTESİ / LIST OF PROGRAM OUTCOMES

- Kimya temel disiplinlerinde yetkinlik gösterir. / Demonstrate competence in the fundamental disciplines of chemistry.
- Kimya alanındaki problemleri çözmek için yüksek matematik ve ileri fizik uygulamalarını kullanır. / Apply higher mathematics and advanced physics for solving chemical problems.
- Kimyasal deneyler tasarlar, uygular ve sonuçlarını analiz eder. / Design and perform chemical experiments and to analyze the results.
- Kimyasal deney yaparken geleneksel ve modern ekipmanları / cihazları kullanır. / Use traditional and modern instrumentation for chemical experimentation.
- Kimyasalları güvenli ve sorumlu bir şekilde kullanır. / Handle chemicals safely and responsibly.
- Araştırma sonuçlarını objektif ve dürüst bir şekilde raporlandırır. / Report research results objectively and honestly.
- Araştırma yapmak için bilgisayar ve veri işleme teknolojisini kullanır. / Employ computers and data processing technology for research.
- Bağımsız çalışma ve takım çalışmaları ile bilgilerini genişletir. / Widen their knowledge through independent study and teamwork.

- i.** İngilizceyi ve anadilini etkin bir şekilde kullanarak akranları ve halk ile yazılı ve sözlü şekilde iletişime geçebilir. / *Widen their knowledge through independent study and teamwork.*
- j.** Kimyanın sağlığa, topluma ve çevreye olumlu etkilerini değerlendirir. / *Assess of the impact of chemistry on health and well-being of society and environment.*
- k.** Öğrenciler, derslerin yanı sıra çeşitli ve yaratıcı, sanatsal, kültürel, sportif ve entelektüel faaliyetlere katılarak kampüs hayatından daha fazla faydalanırlar. / *Take advantage of the campus life where students are engaged in diversity, creativity and commitment outside coursework through artistic, cultural, sportive and intellectual activities.*

2.2. PROGRAM ÇIKTILARI - DERSLER MATRİSİ / PROGRAM OUTCOMES - COURSES TABLE

Dersler / Courses	Program Çıktıları / Program Outcomes										
	a	b	c	d	e	f	g	h	i	j	k
CHEM 101	✓	✓	✓	✓	✓	✓	✓				
CHEM 102	✓	✓	✓	✓	✓	✓		✓	✓	✓	
CHEM 120								✓	✓	✓	
CHEM 211	✓		✓	✓			✓				
CHEM 212	✓			✓							
CHEM 213	✓		✓	✓	✓				✓		
CHEM 214	✓		✓	✓	✓				✓		
CHEM 231	✓		✓				✓	✓			
CHEM 232	✓						✓	✓			
CHEM 235	✓		✓	✓	✓	✓	✓	✓	✓	✓	
CHEM 236	✓		✓	✓	✓	✓	✓	✓	✓	✓	
CHEM 320		✓	✓		✓	✓			✓		
CHEM 323	✓	✓									
CHEM 324	✓	✓	✓	✓	✓		✓			✓	
CHEM 327	✓	✓			✓				✓	✓	
CHEM 328	✓	✓							✓	✓	
CHEM 340	✓		✓	✓	✓	✓	✓	✓	✓		
CHEM 341	✓							✓			
CHEM 342	✓	✓						✓			
CHEM 399	✓		✓	✓	✓	✓	✓	✓		✓	
CHEM 422	✓	✓									
CHEM 450	✓	✓							✓		
CHEM 461	✓								✓	✓	✓
COMD 358										✓	
CS 115							✓	✓			
ENG 101									✓		
ENG 102										✓	
GE 100											✓
GE 250											✓
GE 251											✓
HIST 200										✓	
HUM 111										✓	
HUM 112										✓	
MATH 101		✓	✓							✓	
MATH 102		✓	✓							✓	
MATH 225		✓								✓	
MBG 110										✓	✓
PHYS 101		✓	✓						✓	✓	
PHYS 102		✓	✓						✓	✓	
TURK 101										✓	✓
TURK 102										✓	✓

Tablo.2.2. Kimya Lisans Programı - Program Çıktıları ve Dersler Tablosu / **Table.2.2.** Chemistry Undergraduate Program - Program Outcomes and Courses Table

3. PERFORMANS ÖLÇÜMLERİNDE KULLANILACAK METRİKLER / *METRICS TO BE USED IN PERFORMANCE MEASUREMENT*

3.1. PERFORMANS ÖLÇÜMLERİNDE KULLANILACAK DEĞERLENDİRME METOTLARI // *EVAULATION METHODS USED IN PERFORMANCE MEASUREMENTS*

Course Code	Program Outputs	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
CHEM 101	a	100	100	M3	50
	Program Outputs	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	b	100	100	M3	50
	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	c	100	100	M3	70
	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	d	100	100	M3	70
	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	e	100	100	M3	70
	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	f	100	100	M3	70
Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	
g	100	100	M3	70	
Course Code	Program Outputs	In-class attendance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
CHEM 120	h	100	100	M3	70

Course Code	Program Outputs	In-class attendance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade						
CHEM 120	i	100	100	M3	70						
	Program Outputs	In-class attendance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade						
	j	100	100	M3	70						
Course Code	Program Outputs	Final:Essay/written	Midterm:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
CHEM 211	a	50	50	100	M1	50	50				
	Program Outputs	Homework	Homework	Homework	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade		
	g	20	20	20	20	20	100	M3	50		
Course Code	Program Outputs	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade						
CHEM 214	a	100	100	M3	70						
	Program Outputs	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	c	16	16	16	16	16	16	4	100	M3	70
	Program Outputs	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	d	16	16	16	16	16	16	4	100	M3	70
	Program Outputs	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
	e	16	16	16	16	16	16	4	100	M3	70
	Program Outputs	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
i	16	16	16	16	16	16	4	100	M3	70	
Course Code	Program Outputs	Midterm:Essay/written	Final:Essay/written	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)			
CHEM 231	a	40	50	10	100	M1	50	50			

Course Code	Program Outputs	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Final:Essay/ written	
CHEM 235	e	7	7	7	7	7	7	7	7	7	7	7	
		In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade								
		30	100	M3	40								
	Program Outputs	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Papers(s)/Reports	Final:Essay/ written	
	j	10	10	10	10	10	10	10	10	10	10	10	10
		Total Contribution	Qualification Calculation Method	(Average) Qualification Grade									
100		M3	40										
Course Code	Program Outputs	Lab work	Lab work	Lab work	Lab work	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade				
CHEM 320	c	20	20	20	20	20	100	M3	70				
	Program Outputs	Lab work	Lab work	Lab work	Lab work	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade				
	e	20	20	20	20	20	100	M3	70				
	Program Outputs	Lab work	Lab work	Lab work	Lab work	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade				
	f	20	20	20	20	20	100	M3	70				
Course Code	Program Outputs	Quiz	Quiz	Midterm	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade					
CHEM 323	a	15	15	45	25	100	M3	40					
Course Code	Program Outputs	Midterm:Essay/ written	Final:Essay /written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade							
CHEM 327	a	40	60	100	M3	40							
	Program Outputs	Midterm:Essay/ written	Final:Essay /written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade							
	j	40	60	100	M3	40							

Course Code	Program Outputs	Midterm:Essay/ written	Midterm	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade					
CHEM 341	a	35	35	30	100	M3	40					
	Program Outputs	Midterm:Essay/ written	Midterm	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade					
	h	35	35	30	100	M3	40					
Course Code	Program Outputs	Midterm:Essay/ written	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade						
CHEM 450	a	50	50	100	M3	70						
	Program Outputs	Midterm:Essay/ written	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade						
	b	50	50	100	M3	70						
	Program Outputs	Project	Project	Project	Project	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade			
	g	20	20	20	20	20	100	M3	70			
Course Code	Program Outputs	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade							
CHEM 461	a	100	100	M3	50							
	Program Outputs	Presentation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade							
	h	100	100	M3	50							
	Program Outputs	Presentation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade							
	i	100	100	M3	50							
Course Code	Program Outputs	Homeworks	Homeworks	Homeworks	Homeworks	Homeworks	In-class assignments	In-class assignments	In-class assignments	In-class assignments	In-class assignments	
COMD 358	i	5	5	5	5	5	5	5	5	5	5	
		Exam	Project & Presentations	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)					
		25	25	100	M1	60	70					

Course Code	Program Outputs	Lab exam	Midterm:Essay/ written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
CS 115	c	20	40	40	100	M1	40	75				
	Program Outputs	Lab exam	Midterm:Essay/ written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
	d	20	40	40	100	M1	40	75				
	Program Outputs	Lab exam	Midterm:Essay/ written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
	g	20	40	40	100	M1	40	75				
Course Code	Program Outputs	Academic Essay 1	Essay	Oral Presentation	Student Led Discussion	Academic Summary and Critical Response Task	Self-progress Reflection Task	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	
ENG 101	g	20	25	8	7	10	5	25	100	M1	70	
		Qualification Threshold (%)										
		75										
	Program Outputs	Academic Essay 1	Essay	Oral Presentation	Student Led Discussion	Academic Summary and Critical Response Task	Self-progress Reflection Task	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	
	i	20	25	8	7	10	5	25	100	M1	70	
Qualification Threshold (%)												
75												
Course Code	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)						
GE 100	k	100	100	M1	12	80						
Course Code	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)						
GE 251	k	100	100	M1	100	70						
Course Code	Program Outputs	Oral presentation	Research essay	Performance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
HIST 200	h	10	60	30	100	M1	70	75				
Course Code	Program Outputs	Quizzes	Course Project	In-class participation	Final Examination	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)			
HUM 111	i	30	30	10	30	100	M1	60	75			

Course Code	Program Outputs	Midterm	Midterm	Final	Quiz	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
MATH 101	b	25	25	30	10	10	100	M1	40	50	
	Program Outputs	Midterm	Midterm	Final	Quiz	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	c	25	25	30	10	10	100	M1	40	50	
	i	25	25	30	10	10	100	M1	40	50	
Course Code	Program Outputs	Midterm:Essay /written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
MATH 225	b	50	50	100	M1	40	50				
	Program Outputs	Midterm:Essay /written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
	g	50	50	100	M1	40	50				
Course Code	Program Outputs	Quiz	Quiz	Quiz	Midterm	Midterm	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
MBG 110	h	5	5	5	25	30	30	100	M1	50	50
	Program Outputs	Quiz	Quiz	Quiz	Midterm	Midterm	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	j	5	5	5	25	30	30	100	M1	50	50
Course Code	Program Outputs	Midterm	Midterm	Quiz	Homework	Final	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
PHYS 101	b	15	20	10	10	25	20	100	M1	50	50
	Program Outputs	Midterm	Midterm	Quiz	Homework	Final	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	15	20	10	10	25	20	100	M1	50	50
	f	15	20	10	10	25	20	100	M1	50	50

Course Code	Program Outputs	Midterm	Midterm	Quiz	Homework	Final	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
PHYS 101	h	15	20	10	10	25	20	100	M1	50	50
	Program Outputs	Midterm	Midterm	Quiz	Homework	Final	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	i	15	20	10	10	25	20	100	M1	50	50
Course Code	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
TURK 101	i	70	30	100	M1	70	60				
Course Code	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)				
TURK 102	i	70	30	100	M1	70	60				

• **Ölçümlerde Kullanılan Metotlarla İlgili Açıklamalar / Explanations About the Methods Used in Measurements**

Bütün metotlar için sadece dersi geçen öğrencilerin notları kullanılacaktır. / For all methods, only the grades of students who pass the course will be used.

- G = Bölüm tarafından belirlenmiş olan başarılı sayılabilecek minimum not / G = Minimum grade that can be considered successful as determined by the department
- T = Program çıktısı başarısı için eşik değer / T = Threshold value for program output success
- M1: Öğrencilerin %T'sinin not ortalamasının G veya üzerinde olması / M1: T% of students have a grade point average of G or above
- M2: Öğrencilerin %T'sinin bölüm ortalaması üzerinde not almış olması / M2: %T of students have received grades above the department average
- M3: Öğrencilerin not ortalamasının G veya üzerinde olması / M3: Students' grade point average should be G or above
- M4: Öğrencilerin %T'sinin not ortalamasının dersi alan tüm öğrencilerin ortalamasına eşit veya daha yüksek olması / M4: The GPA of %T of students is equal to or higher than the average of all students taking the course

3.2. PERFORMANS ÖLÇÜMLERİNDE KULLANILAN METOTLAR VE PERFORMANS SONUÇ DETAYLARI / METHODS USED IN PERFORMANCE MEASUREMENTS AND PERFORMANCE RESULT DETAILS

Program Çıktısı / Program Outcome	Yeterlilik Hesaplama Yöntemi / Method	(Ortalama) Yeterlilik Notu / Minimum Successful Grade	Yeterlilik Eşiği (%) / Threshold Percentage (%)	Toplam Öğrenci Sayısı / Number of Students (All)	Toplam Dept. Öğrenci Sayısı / Number of Students (Dept.)	Tüm Öğrenci Ort. / Average (All Std.)	Dept. Öğrenci Ort. / Average (Dept. Std.)	Yeterliliği Sağlayan Öğrenci Sayısı (Toplam) / Number of Succ. Students (All)	Yeterliliği Sağlayan Öğrenci Sayısı (Dept.) / Number of Succ. Students (Dept.)	Yeterlilik Oranı (Toplam Öğrenci) / Success Ratio (All)	Yeterlilik Oranı (Bölüm Öğrenci) / Success Ratio (Dept.)	Performans / Performance	Yeterlilik Oranı / Success Ratio
CHEM 101 - Kimyanın Temelleri I / CHEM 101 - Principles of Chemistry I													
a	M3	50		82	26	64.39	65.63	65	21	79.27	80.77	Yeterli ✓ / Sufficient ✓	65.63
b	M3	50		82	26	64.39	65.63	65	21	79.27	80.77	Yeterli ✓ / Sufficient ✓	65.63
c	M3	70		82	26	84.61	84.92	81	26	98.78	100.00	Yeterli ✓ / Sufficient ✓	84.92
d	M3	70		82	26	84.61	84.92	81	26	98.78	100.00	Yeterli ✓ / Sufficient ✓	84.92
e	M3	70		82	26	84.61	84.92	81	26	98.78	100.00	Yeterli ✓ / Sufficient ✓	84.92
f	M3	70		82	26	84.61	84.92	81	26	98.78	100.00	Yeterli ✓ / Sufficient ✓	84.92
g	M3	70		82	26	84.61	84.92	81	26	98.78	100.00	Yeterli ✓ / Sufficient ✓	84.92
CHEM 120 - Kimya Öğrencileri İçin Üniversite Hayatına Giriş / CHEM 120 - Orientation for Chemistry Majors													
h	M3	70		33	33	93.33	93.33	29	29	87.88	87.88	Yeterli ✓ / Sufficient ✓	93.33
i	M3	70		33	33	93.33	93.33	29	29	87.88	87.88	Yeterli ✓ / Sufficient ✓	93.33
j	M3	70		33	33	93.33	93.33	29	29	87.88	87.88	Yeterli ✓ / Sufficient ✓	93.33
CHEM 211 - Analitik Kimya I / CHEM 211 - Analytical Chemistry I													
a	M1	50	50	33	33	69.77	69.77	28	28	84.85	84.85	Yeterli ✓ / Sufficient ✓	84.85
g	M3	50		33	33	72.69	72.69	26	26	78.79	78.79	Yeterli ✓ / Sufficient ✓	72.69
CHEM 214 - Analitik Kimya Laboratuvarı II / CHEM 214 - Analytical Chemistry Laboratory II													
a	M3	70		18	18	85.89	85.89	17	17	94.44	94.44	Yeterli ✓ / Sufficient ✓	85.89
c	M3	70		18	18	81.83	81.83	16	16	88.89	88.89	Yeterli ✓ / Sufficient ✓	81.83
d	M3	70		18	18	81.83	81.83	16	16	88.89	88.89	Yeterli ✓ / Sufficient ✓	81.83
e	M3	70		18	18	81.83	81.83	16	16	88.89	88.89	Yeterli ✓ / Sufficient ✓	81.83
i	M3	70		18	18	81.83	81.83	16	16	88.89	88.89	Yeterli ✓ / Sufficient ✓	81.83
CHEM 231 - Organik Kimya I / CHEM 231 - Organic Chemistry I													
a	M1	50	50	28	28	52.96	52.96	13	13	46.43	46.43	İyileştirmeye Açık! / Insufficient!	46.43
CHEM 235 - Organik Kimya Laboratuvarı I / CHEM 235 - Organic Chemistry Laboratory I													
e	M3	40		21	21	78.77	78.77	21	21	100.00	100.00	Yeterli ✓ / Sufficient ✓	78.77
j	M3	40		21	21	77.63	77.63	21	21	100.00	100.00	Yeterli ✓ / Sufficient ✓	77.63
CHEM 320 - Fizikokimya Laboratuvarı / CHEM 320 - Physical Chemistry Laboratory													
c	M3	70		25	25	88.26	88.26	23	23	92.00	92.00	Yeterli ✓ / Sufficient ✓	88.26
e	M3	70		25	25	88.26	88.26	23	23	92.00	92.00	Yeterli ✓ / Sufficient ✓	88.26
f	M3	70		25	25	88.26	88.26	23	23	92.00	92.00	Yeterli ✓ / Sufficient ✓	88.26

Program Çıktısı / Program Outcome	Yeterlilik Hesaplama Yöntemi / Method	(Ortalama) Yeterlilik Notu / Minimum Successful Grade	Yeterlilik Eşiği (%) / Threshold Percentage (%)	Toplam Öğrenci Sayısı / Number of Students (All)	Toplam Dept. Öğrenci Sayısı / Number of Students (Dept.)	Tüm Öğrenci Ort. / Average (All Std.)	Dept. Öğrenci Ort. / Average (Dept. Std.)	Yeterliliği Sağlayan Öğrenci Sayısı (Toplam) / Number of Succ. Students (All)	Yeterliliği Sağlayan Öğrenci Sayısı (Dept.) / Number of Succ. Students (Dept.)	Yeterlilik Oranı (Toplam Öğrenci) / Success Ratio (All)	Yeterlilik Oranı (Bölüm Öğrenci) / Success Ratio (Dept.)	Performans / Performance	Yeterlilik Oranı / Success Ratio
CHEM 323 - Fizikokimya I / CHEM 323 - Physical Chemistry I													
a	M3	40		27	26	51.97	51.38	21	20	77.78	76.92	Yeterli ✓ / Sufficient ✓	51.38
CHEM 327 - Kuantum Kimyası I / CHEM 327 - Quantum Chemistry I													
a	M3	40		20	18	57.79	55.94	14	12	70.00	66.67	Yeterli ✓ / Sufficient ✓	55.94
j	M3	40		20	18	57.79	55.94	14	12	70.00	66.67	Yeterli ✓ / Sufficient ✓	55.94
CHEM 341 - Anorganik Kimya I / CHEM 341 - Inorganic Chemistry I													
a	M3	40		27	26	54.05	54.21	22	21	81.48	80.77	Yeterli ✓ / Sufficient ✓	54.21
h	M3	40		27	26	54.05	54.21	22	21	81.48	80.77	Yeterli ✓ / Sufficient ✓	54.21
CHEM 450 - Uygulamalı Kuantum Kimyası / CHEM 450 - Applied Quantum Chemistry													
a	M3	70		11	11	65.50	65.50	4	4	36.36	36.36	İyileştirmeye Açık! / Insufficient!	65.50
b	M3	70		11	11	65.50	65.50	4	4	36.36	36.36	İyileştirmeye Açık! / Insufficient!	65.50
g	M3	70		11	11	93.71	93.71	11	11	100.00	100.00	Yeterli ✓ / Sufficient ✓	93.71
CHEM 461 - Biyokimyanın Temelleri / CHEM 461 - Fundamentals of Biochemistry													
a	M3	50		17	17	62.29	62.29	13	13	76.47	76.47	Yeterli ✓ / Sufficient ✓	62.29
h	M3	50		17	17	63.73	63.73	11	11	64.71	64.71	Yeterli ✓ / Sufficient ✓	63.73
i	M3	50		17	17	63.73	63.73	11	11	64.71	64.71	Yeterli ✓ / Sufficient ✓	63.73
COMD 358 - Profesyonel İletişim / COMD 358 - Professional Communication													
i	M1	60	70	400	12	83.62	86.38	398	12	99.50	100.00	Yeterli ✓ / Sufficient ✓	100.00
CS 115 - Python ile Programlamaya Giriş / CS 115 - Introduction to Programming in Python													
c	M1	40	75	351	8	69.76	58.85	346	8	98.58	100.00	Yeterli ✓ / Sufficient ✓	100.00
d	M1	40	75	351	8	69.76	58.85	346	8	98.58	100.00	Yeterli ✓ / Sufficient ✓	100.00
g	M1	40	75	351	8	69.76	58.85	346	8	98.58	100.00	Yeterli ✓ / Sufficient ✓	100.00
ENG 101 - İngilizce ve Kompozisyon I / ENG 101 - English and Composition I													
g	M1	70	75	1698	28	82.20	83.20	1560	26	91.87	92.86	Yeterli ✓ / Sufficient ✓	92.86
i	M1	70	75	1698	28	82.20	83.20	1560	26	91.87	92.86	Yeterli ✓ / Sufficient ✓	92.86
GE 100 - Üniversite Hayatına Giriş / GE 100 - Orientation													
k	M1	12	80	1681	28	97.14	98.21	1681	28	100.00	100.00	Yeterli ✓ / Sufficient ✓	100.00
GE 251 - Üniversite Etkinlik Programı II / GE 251 - Collegiate Activities Program II													
k	M1	100	70	838	11	93.01	93.64	568	8	67.78	72.73	Yeterli ✓ / Sufficient ✓	72.73

Program Çıktısı / Program Outcome	Yeterlilik Hesaplama Yöntemi / Method	(Ortalama) Yeterlilik Notu / Minimum Successful Grade	Yeterlilik Eşiği (%) / Threshold Percentage (%)	Toplam Öğrenci Sayısı / Number of Students (All)	Toplam Dept. Öğrenci Sayısı / Number of Students (Dept.)	Tüm Öğrenci Ort. / Average (All Std.)	Dept. Öğrenci Ort. / Average (Dept. Std.)	Yeterliliği Sağlayan Öğrenci Sayısı (Toplam) / Number of Succ. Students (All)	Yeterliliği Sağlayan Öğrenci Sayısı (Dept.) / Number of Succ. Students (Dept.)	Yeterlilik Oranı (Toplam Öğrenci) / Success Ratio (All)	Yeterlilik Oranı (Bölüm Öğrenci) / Success Ratio (Dept.)	Performans / Performance	Yeterlilik Oranı / Success Ratio
HIST 200 - Türkiye Tarihi / HIST 200 - History of Turkey													
h	M1	70	75	1055	9	93.35	91.22	1044	9	98.96	100.00	Yeterli ✓ / Sufficient ✓	100.00
HUM 111 - Kültürler, Medeniyetler ve Düşünceler I / HUM 111 - Cultures Civilizations and Ideas I													
i	M1	60	75	1110	16	83.62	88.00	1099	16	99.01	100.00	Yeterli ✓ / Sufficient ✓	100.00
MATH 101 - Matematik I / MATH 101 - Calculus I													
b	M1	40	50	741	35	65.46	57.86	686	34	92.58	97.14	Yeterli ✓ / Sufficient ✓	97.14
c	M1	40	50	741	35	65.46	57.86	686	34	92.58	97.14	Yeterli ✓ / Sufficient ✓	97.14
i	M1	40	50	741	35	65.46	57.86	686	34	92.58	97.14	Yeterli ✓ / Sufficient ✓	97.14
MATH 225 - Doğrusal Cebir ve Türevsel Denklemler / MATH 225 - Linear Algebra and Differential Equations													
b	M1	40	50	206	9	45.79	40.00	118	4	57.28	44.44	İyileştirmeye Açık! / Insufficient!	44.44
g	M1	40	50	206	9	45.79	40.00	118	4	57.28	44.44	İyileştirmeye Açık! / Insufficient!	44.44
MBG 110 - Modern Biyolojiye Giriş / MBG 110 - Introduction to Modern Biology													
h	M1	50	50	450	14	64.65	71.01	345	14	76.67	100.00	Yeterli ✓ / Sufficient ✓	100.00
j	M1	50	50	450	14	64.65	71.01	345	14	76.67	100.00	Yeterli ✓ / Sufficient ✓	100.00
PHYS 101 - Genel Fizik I / PHYS 101 - General Physics I													
b	M1	50	50	663	28	68.54	60.58	598	24	90.20	85.71	Yeterli ✓ / Sufficient ✓	85.71
c	M1	50	50	663	28	68.54	60.58	598	24	90.20	85.71	Yeterli ✓ / Sufficient ✓	85.71
f	M1	50	50	663	28	68.54	60.58	598	24	90.20	85.71	Yeterli ✓ / Sufficient ✓	85.71
h	M1	50	50	663	28	68.54	60.58	598	24	90.20	85.71	Yeterli ✓ / Sufficient ✓	85.71
i	M1	50	50	663	28	68.54	60.58	598	24	90.20	85.71	Yeterli ✓ / Sufficient ✓	85.71
TURK 101 - Türkçe I / TURK 101 - Turkish I													
i	M1	70	60	1516	30	87.68	89.40	1493	30	98.48	100.00	Yeterli ✓ / Sufficient ✓	100.00
TURK 102 - Türkçe II / TURK 102 - Turkish II													
i	M1	70	60	492	6	90.84	85.28	487	5	98.98	83.33	Yeterli ✓ / Sufficient ✓	83.33

3.3. PERFORMANS ÖLÇÜM SONUÇLARI / PERFORMANCE MEASUREMENT RESULTS

3.3.1. PROGRAM ÇIKTILARI PERFORMANS TABLOSU / PROGRAM OUTCOMES PERFORMANCE TABLE

Dersler / Courses	Program Çıktıları / Program Outcomes										
	a	b	c	d	e	f	g	h	i	j	k
CHEM 101	✓	✓	✓	✓	✓	✓	✓				
CHEM 120								✓	✓	✓	
CHEM 211	✓						✓				
CHEM 214	✓		✓	✓	✓				✓		
CHEM 231	X										
CHEM 235					✓					✓	
CHEM 320			✓		✓	✓					
CHEM 323	✓										
CHEM 327	✓									✓	
CHEM 341	✓							✓			
CHEM 450	X	X					✓				
CHEM 461	✓							✓	✓		
COMD 358									✓		
CS 115			✓	✓			✓				
ENG 101							✓		✓		
GE 100											✓
GE 251											✓
HIST 200								✓			
HUM 111									✓		
MATH 101		✓	✓						✓		
MATH 225		X					X				
MBG 110								✓		✓	
PHYS 101		✓	✓			✓		✓	✓		
TURK 101									✓		
TURK 102									✓		

Tablo.3.3.1. 2023-2024 Akademik Yılı Güz Dönemi Kimya Lisans Programı Program Çıktıları Performans Tablosu / **Table.3.3.1.** 2023-2024 Academic Year Fall Chemistry Undergraduate Program - Program Outcomes Performance Table

3.3.2. PROGRAM ÇIKTILARI PERFORMANS ORANLARI / PROGRAM OUTCOMES PERFORMANCE RATES

Dersler / Courses	Program Çıktıları / Program Outcomes										
	a	b	c	d	e	f	g	h	i	j	k
CHEM 101	65.63	65.63	84.92	84.92	84.92	84.92	84.92				
CHEM 120								93.33	93.33	93.33	
CHEM 211	84.85						72.69				
CHEM 214	85.89		81.83	81.83	81.83				81.83		
CHEM 231	46.43										
CHEM 235					78.77					77.63	
CHEM 320			88.26		88.26	88.26					
CHEM 323	51.38										
CHEM 327	55.94									55.94	
CHEM 341	54.21							54.21			
CHEM 450	65.50	65.50					93.71				
CHEM 461	62.29							63.73	63.73		
COMD 358									100.00		
CS 115			100.00	100.00			100.00				
ENG 101							92.86		92.86		
GE 100											100.00
GE 251											72.73
HIST 200								100.00			
HUM 111									100.00		
MATH 101		97.14	97.14						97.14		
MATH 225		44.44					44.44				
MBC 110								100.00		100.00	
PHYS 101		85.71	85.71			85.71		85.71	85.71		
TURK 101									100.00		
TURK 102									83.33		

Tablo.3.3.2. 2023-2024 Akademik Yılı Güz Dönemi Kimya Lisans Programı Program Çıktıları Performans Oranları Tablosu / *Table.3.3.2. 2023-2024 Academic Year Fall Semester Chemistry Undergraduate Program - Program Outcomes Performance Rates Table*