

2023-2024 AKADEMİK YILI /
Academic Year

EĞİTİMDE KALİTE GÜVENCESİ YILLIK RAPORU

*QUALITY ASSURANCE IN
EDUCATION ANNUAL REPORT*

FEN FAKÜLTESİ
FACULTY OF SCIENCE

KİMYA LİSANS PROGRAMI (CHEM)
*CHEMISTRY UNDERGRADUATE PROGRAM
(CHEM)*



İÇİNDEKİLER / CONTENTS

| | |
|--|----|
| 1. BÖLÜM HAKKINDA / ABOUT THE DEPARTMENT | 2 |
| 1.1. EĞİTİM AMAÇLARI / EDUCATIONAL OBJECTIVES..... | 2 |
| 1.1.1. DANIŞMA KURULU / ADVISORY BOARD | 2 |
| 1.2. LİSANS PROGRAMI / UNDERGRADUATE PROGRAM..... | 3 |
| 1.2.1. MÜFREDAT / CURRICULUM | 3 |
| 1.2.2. DERSLERİN DAĞILIMI / DISTRIBUTION COURSES | 5 |
| 1.3. ÖĞRENCİLER / STUDENTS..... | 5 |
| 1.3.1. ÖĞRENCİ SAYILARI / NUMBER OF STUDENTS..... | 5 |
| 1.3.2. YABANCI ÖĞRENCİ SAYILARI / NUMBER OF FOREIGN STUDENTS | 6 |
| 1.4. ÖĞRETİM ELEMANLARI / FACULTY MEMBERS | 6 |
| 1.4.1. ÖĞRETİM ELEMANI SAYILARI / NUMBER OF FACULTY MEMBERS | 6 |
| 1.4.2. ÖĞRETİM ELEMANLARININ LİSTESİ / LIST OF FACULTY MEMBERS..... | 7 |
| 1.5. EĞİTİMDE KALİTE KOMİTESİ / COMMITTEE OF QUALITY IN EDUCATION | 7 |
| 2. TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ - ULUSAL YETERLİLİKLER / TURKISH HIGHER EDUCATION QUALIFICATIONS FRAMEWORK - NATIONAL QUALIFICATIONS | 8 |
| 3. PROGRAM ÇIKTILARI / PROGRAM OUTCOMES..... | 10 |
| 3.1. PROGRAM ÇIKTILARININ LİSTESİ / LIST OF PROGRAM OUTCOMES | 10 |
| 3.2. ULUSAL YETERLİLİKLER İLE PROGRAM ÇIKTILARI BAĞLANTI TABLOSU / NATIONAL QUALIFICATIONS AND PROGRAM OUTCOMES CONNECTION TABLE | 11 |
| 4. DERSLER / COURSES | 12 |
| 4.1. PROGRAM ÇIKTILARI - DERSLER TABLOSU / PROGRAM OUTCOMES - COURSES TABLE12 | |
| 4.2. PERFORMANS ÖLÇÜMÜNDE KULLANILAN METRİKLER / METRICS TO BE USED IN PERFORMANCE MEASUREMENT..... | 13 |
| 4.2.1. PERFORMANS ÖLÇÜMLERİNDE KULLANILAN DEĞERLENDİRME METOTLARI // EVALUATION METHODS USED IN PERFORMANCE MEASUREMENTS ... | 13 |
| 4.2.2. PERFORMANS ÖLÇÜMLERİNDE KULLANILAN METOTLAR VE PERFORMANS SONUÇ DETAYLARI / METHODS USED IN PERFORMANCE MEASUREMENTS AND PERFORMANCE RESULT DETAILS | 32 |
| 4.3. PERFORMANS ÖLÇÜM SONUÇLARI / PERFORMANCE MEASUREMENT RESULTS | 42 |
| 4.3.1. PROGRAM ÇIKTILARI PERFORMANS TABLOSU / PROGRAM OUTCOMES PERFORMANCE TABLE..... | 42 |
| 4.3.2. PROGRAM ÇIKTILARI PERFORMANS ORANLARI / PROGRAM OUTCOMES PERFORMANCE RATES..... | 44 |
| 5. DEĞERLENDİRME / EVALUATION | 46 |
| 5.1. PROGRAM ÇIKTILARI ÖLÇÜM SONUÇLARININ DEĞERLENDİRİLMESİ / EVALUATION OF PROGRAM OUTCOMES MEASUREMENT RESULTS | 46 |
| 5.2. EĞİTİM AMAÇLARININ DEĞERLENDİRİLMESİ / EVALUATION OF EDUCATIONAL OBJECTIVES | 46 |

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

1. BÖLÜM HAKKINDA / ABOUT THE DEPARTMENT

1.1. EĞİTİM AMAÇLARI / EDUCATIONAL OBJECTIVES

- Mezunlar, kimya ve ilgili alanlarda prestijli yüksek lisans programlarına ve/veya şirketlere kabul edilip, başarı göstereceklerdir. / *Graduates will get accepted into and excel in prestigious graduate programs and/or companies involved in Chemistry related areas.*
- Mezunlar, kimyanın çalışma alanları ile ilgili konularında en son araştırma/geliştirme çalışmalarını takip edeceklerdir. / *Graduates will follow the cutting edge research and development in fields of chemistry relevant to their profession.*
- Mezunlar, kimya ile alakalı değişen ve evrilen teknolojilere adapte olabileceklerdir. / *Graduates will be able to adapt to developing and evolving technologies relevant to Chemistry.*

1.1.1. DANIŞMA KURULU / ADVISORY BOARD

- Cem Açksarı, Arge Lider Mühendis, TÜPRAŞ / *Cem Açksarı, R&D Lead Engineer, TÜPRAŞ*
- Doç. Dr. Özgür Birer, Aselsan A.Ş. / *Assoc. Dr. Özgür Birer, Aselsan A.Ş.*
- Yiğit Altay, Uzman Araştırmacı, Mosa Meat / *Yiğit Altay, Expert Researcher, Mosa Meat*
- Dr. Tuğhan Akbaşak, ARGE Müdürü, Akkim Kimya / *Dr. Tuğhan Akbaşak, R&D Manager, Akkim Kimya*
- Dr. Hacı Eşiyok, Roketsan A.Ş. / *Dr. Hacı Eşiyok, Roketsan A.Ş.*
- Dr. Merve Yaşacan, Aselsan A.Ş. / *Dr. Merve Yaşacan, Aselsan A.Ş.*
- Fatih Cengiz Aygöl, Sandoz / *Fatih Cengiz Aygöl, Sandoz*

1.2. LİSANS PROGRAMI / UNDERGRADUATE PROGRAM

1.2.1. MÜFREDAT / CURRICULUM

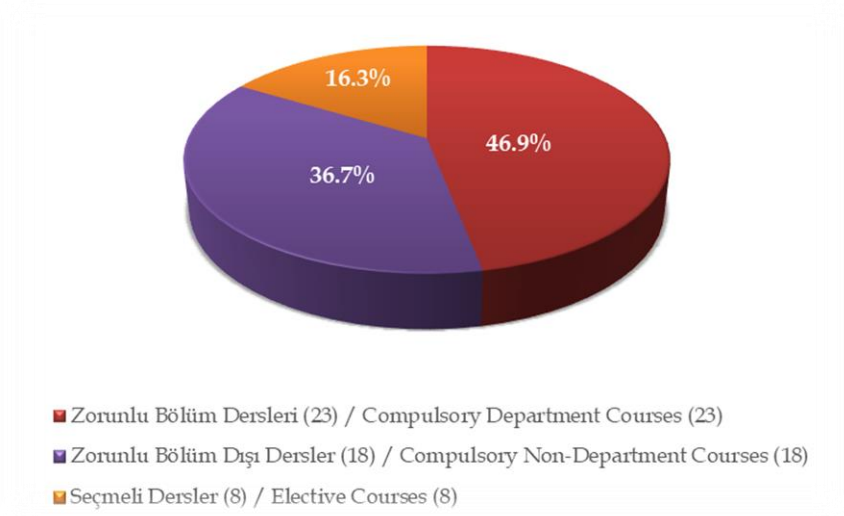
| Birinci Yıl / First Year | | | | | |
|--------------------------------|---|-----------------|--|-----------------|------|
| Güz Dönemi / Fall Semester | | | | | |
| Ders Kod / Course Code | Ders Adı / Course Name | Saatler / Hours | | Kredi / Credits | |
| | | Ders / Lecture | Lab / Stüdyo / Diğer / 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 | |

1.2.2. DERSLERİN DAĞILIMI / DISTRIBUTION COURSES



Grafik.1.2.2. Kimya Lisans Programı Müfredatındaki Derslerin Dağılımı/ *Graphic.1.2.2. Distribution of Courses in the Chemistry Undergraduate Program Curriculum*

1.3. ÖĞRENCİLER / STUDENTS

1.3.1. ÖĞRENCİ SAYILARI / NUMBER OF STUDENTS

| Öğrenci Sayıları / Number of Students | |
|---|------------|
| Hazırlık / Prep | 19 |
| 1. Sınıf / 1. Class | 47 |
| 2. Sınıf / 2. Class | 36 |
| 3. Sınıf / 3. Class | 27 |
| 4. Sınıf / 4. Class | 25 |
| Toplam Öğrenci Sayısı / Total Number of Students | 154 |

Tablo.1.3.1. 2023-2024 Akademik Yılı Kimya Lisans Programı Öğrenci Sayıları / *Table.1.3.1. Number of Students in Chemistry Undergraduate Program for the 2023-2024 Academic Year*

1.3.2. YABANCI ÖĞRENCİ SAYILARI / NUMBER OF FOREIGN STUDENTS

| Yabancı Öğrenci Sayıları / Number of Foreign Students | |
|---|----------|
| Hazırlık / Prep | 1 |
| 2. Sınıf / 2. Class | 3 |
| 4. Sınıf / 4. Class | 2 |
| Toplam Yabancı Öğrenci Sayısı / Total Number of Foreign Students | 6 |

Tablo.1.3.2. 2023-2024 Akademik Yılı Kimya Lisans Programı Yabancı Öğrenci Sayıları / **Table.1.3.2.** Number of Foreign Students in Chemistry Undergraduate Program for the 2023-2024 Academic Year

1.4. ÖĞRETİM ELEMANLARI / FACULTY MEMBERS

1.4.1. ÖĞRETİM ELEMANI SAYILARI / NUMBER OF FACULTY MEMBERS

| Öğretim Elemanı Sayıları / Number of Faculty Members | |
|--|-----------|
| Profesör Doktor / Professor Doctor | 6 |
| Doçent Doktor / Associate Professor | 3 |
| Doktor Öğretim Üyesi / Assistant Professor | 3 |
| Araştırma Görevlisi / Research Assistant | 1 |
| Toplam Öğretim Elemanı Sayısı / Total Number of Faculty Members | 13 |

Tablo.1.4.1. 2023-2024 Akademik Yılında Kimya Lisans Programı Kadrolu ve Yarı Zamanlı Öğretim Elemanı Sayıları / **Table.1.4.1.** Number of Full-Time and Part-Time Faculty Members in the Chemistry Undergraduate Program in the 2023-2024 Academic Year

1.4.2. ÖĞRETİM ELEMANLARININ LİSTESİ / LIST OF FACULTY MEMBERS

| Öğretim Elemanının Unvanı / Title of Faculty Member | Öğretim Elemanının Çalışma Şekli / Work-mode of Faculty Member | Öğretim Elemanının Adı - Soyadı / Name-Surname of Faculty Member |
|---|--|--|
| Araştırma Görevlisi / Research Assistant | Tam Zamanlı / Full Time | Gökberk Katırcı |
| Doçent Doktor / Associate Professor | Tam Zamanlı / Full Time | Ferdi Karadaş |
| Doçent Doktor / Associate Professor | Tam Zamanlı / Full Time | Bilge Baytekin |
| Doçent Doktor / Associate Professor | Tam Zamanlı / Full Time | Burak Ülgüt |
| Doktor Öğretim Üyesi / Assistant Professor | Tam Zamanlı / Full Time | Yunus Emre Türkmen |
| Doktor Öğretim Üyesi / Assistant Professor | Tam Zamanlı / Full Time | Halil İbrahim Okur |
| Doktor Öğretim Üyesi / Assistant Professor | Tam Zamanlı / Full Time | Fahri Alkan |
| Profesör Doktor / Professor Doctor | Tam Zamanlı / Full Time | Ömer Dağ |
| Profesör Doktor / Professor Doctor | Tam Zamanlı / Full Time | Şefik Süzer |
| Profesör Doktor / Professor Doctor | Tam Zamanlı / Full Time | Zeki Cemal Kuruoğlu |
| Profesör Doktor / Professor Doctor | Tam Zamanlı / Full Time | Emrah Özensoy |
| Profesör Doktor / Professor Doctor | Tam Zamanlı / Full Time | Engin Umut Akkaya |
| Profesör Doktor / Professor Doctor | Yarı Zamanlı / Part Time | Ahmet Macit Özenbaş |

Tablo.1.4.2. 2023-2024 Akademik Yılında Kimya Lisans Programı Kadrolu ve Yarı Zamanlı Öğretim Elemanı Listesi / *Table.1.4.2. List of Full-Time and Part-Time Faculty Members in the Chemistry Undergraduate Program in the 2023-2024 Academic Year*

1.5. EĞİTİMDE KALİTE KOMİTESİ / COMMITTEE OF QUALITY IN EDUCATION

- ❖ Emrah Özensoy
- ❖ Fahri Alkan
- ❖ Burak Ülgüt

2. TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ - ULUSAL YETERLİLİKLER / TURKISH HIGHER EDUCATION QUALIFICATIONS FRAMEWORK - NATIONAL QUALIFICATIONS

| Natural Sciences Basic Field Qualifications (Academic Weighted) - 6th Level - Bachelor's | | | | | | |
|--|--|---|---|--|--|--|
| LEVEL OF THEQF | KNOWLEDGE SKILLS -Theoretical -Factual | SKILLS -Cognitive -Practical | COMPETENCIES | | | |
| | | | Ability to Work Independently and Take Responsibility | Learning Competence | Communication and Social Competence | Field-Specific Competence |
| 6th Level Bachelor's | K1. Having advanced theoretical and practical knowledge that emphasizes | S1. Adapting and transferring the field knowledge to secondary education. S2. Using advanced theoretical and practical knowledge in the field. S3. Renewing the knowledge depending on the actual circumstances. S4. Commenting on and assessing data using the | W1. Running an upper level study independently in the field. W2. Taking responsibility individually and as a group member to solve unpredicted complicated problems occurring in field practices. W3. Planning and managing the activities for the improvement of the workers under one's responsibility within a project framework. W4. Taking part in decision making processes for problems in different discipline areas. W5. Using time effectively in achieving results through analytic thinking skills. | L1. Critically evaluating the advanced knowledge and skills acquired in the field. L2. Determining learning needs and redirecting education. L3. Developing positive attitude towards lifelong learning. L4. Having the awareness for the necessity of lifelong learning and constantly developing professional knowledge and skills. | C1. Informing the related persons and organizations in subjects regarding the field and expressing opinions and proposals for solutions to the problems orally and in a written way. C2. Sharing the opinions and solutions to problems supported by quantitative and qualitative data on subjects related to the field with experts and others. C3. Arranging and implementing projects and activities for the society with respect to social responsibility awareness. C4. Keeping track of the developments in the field and communicating with colleagues by speaking a foreign language at least on European Language Portfolio B1general level. C5. Using informatics and communication technologies together with computer software required by the field at least at | F1. Following social, scientific, cultural and ethical values in gathering, commenting on and applying data in the field and announcing the results. F2. Having sufficient awareness on universality of social rights, social justice, complying with and participating in quality management and processes (instead of quality culture), protecting cultural values and environment, occupational health and security. |
| EQF-LLL: 6th Level | scientific approach supported by course books, practice tools and other resources containing current information in the field. | advanced knowledge and skills acquired in the field; defining, analyzing and bring solutions to the problems parallel to the actual technologic developments based on evidence. S5. Having the skills to conceptualize the events and facts in the field; examining them with scientific methods and technics. S6. Designing and realizing experiments, gathering data, | | | | |
| QF-EHEA: 1st Cycle | | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| | | analyzing and commenting on the results for the investigation of problems. | | | European Computer Driving License advanced level. C6. Using the field knowledge on human health and environmental awareness for the benefit of the society. | |
|--|--|--|--|--|--|--|

3. PROGRAM ÇIKTILARI / PROGRAM OUTCOMES

3.1. PROGRAM ÇIKTILARININ LİSTESİ / LIST OF PROGRAM OUTCOMES

- a. Kimya temel disiplinlerinde yetkinlik gösterir. / *Demonstrate competence in the fundamental disciplines of chemistry.*
- b. Kimya alanındaki problemleri çözmek için yüksek matematik ve ileri fizik uygulamalarını kullanır. / *Apply higher mathematics and advanced physics for solving chemical problems.*
- c. Kimyasal deneyler tasarlar, uygular ve sonuçlarını analiz eder. / *Design and perform chemical experiments and to analyze the results.*
- d. Kimyasal deney yaparken geleneksel ve modern ekipmanları / cihazları kullanır. / *Use traditional and modern instrumentation for chemical experimentation.*
- e. Kimyasalları güvenli ve sorumlu bir şekilde kullanır. / *Handle chemicals safely and responsibly.*
- f. Araştırma sonuçlarını objektif ve dürüst bir şekilde raporlandırır. / *Report research results objectively and honestly.*
- g. Araştırma yapmak için bilgisayar ve veri işleme teknolojisini kullanır. / *Employ computers and data processing technology for research.*
- h. 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.*

3.2. ULUSAL YETERLİLİKLER İLE PROGRAM ÇIKTILARI BAĞLANTI TABLOSU / NATIONAL QUALIFICATIONS AND PROGRAM OUTCOMES CONNECTION TABLE

| Ulusal Yeterlilikler / National Competencies | Program Çıktıları / Program Outcomes | | | | | | | | | | |
|---|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) | (i) | (j) | (k) |
| K1 | ✓ | | ✓ | ✓ | | | | | | | |
| S1 | ✓ | ✓ | ✓ | | | | | | | | |
| S2 | ✓ | ✓ | ✓ | | | | | | | | |
| S3 | | | ✓ | ✓ | | | | ✓ | | | |
| S4 | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | |
| S5 | | | ✓ | ✓ | | | ✓ | ✓ | | | |
| S6 | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | |
| W1 | | | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| W2 | | | | ✓ | ✓ | | | ✓ | | | |
| W3 | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | | |
| W4 | | | | | | | | ✓ | ✓ | ✓ | |
| W5 | ✓ | ✓ | | | | | | ✓ | | | |
| L1 | ✓ | ✓ | ✓ | | | | | | | | |
| L2 | | | | | | | | ✓ | ✓ | ✓ | |
| L3 | ✓ | | | | | | | ✓ | | | |
| L4 | | | | | | | | ✓ | | | |
| C1 | | | | | | | | | ✓ | ✓ | |
| C2 | | | | | | | ✓ | | ✓ | ✓ | |
| C3 | | | ✓ | | ✓ | | | | ✓ | ✓ | |
| C4 | | | | | | | | ✓ | ✓ | | |
| C5 | | | | ✓ | | | ✓ | | | | |
| C6 | | | | | | | | ✓ | | ✓ | |
| F1 | | | | | | ✓ | | | ✓ | ✓ | ✓ |
| F2 | | | | | ✓ | | | | | ✓ | ✓ |

Tablo.3.2. Ulusal Yeterlilikler ile Kimya Lisans Programı Program Çıktıları Bağlantı Tablosu
/ **Table.3.2.** National Qualifications and Chemistry Undergraduate Program Program Outcomes Link Table

4. DERSLER / COURSES

4.1. PROGRAM ÇIKTILARI - DERSLER TABLOSU / PROGRAM OUTCOMES - COURSES TABLE

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

Tablo.4.1. Kimya Lisans Programı Program Çıktılarının Müfredat Dersleri ile Eşleşme Tablosu / **Table.4.1.** Chemistry Undergraduate Program - Program Outcomes and Courses Table

4.2. PERFORMANS ÖLÇÜMÜNDE KULLANILAN METRİKLER / METRICS TO BE USED IN PERFORMANCE MEASUREMENT

4.2.1. PERFORMANS ÖLÇÜMLERİNDE KULLANILAN DEĞERLENDİRME METOTLARI // EVALUATION METHODS USED IN PERFORMANCE MEASUREMENTS

4.2.1.1. 2023-2024 Akademik Yılı Güz Dönemi için / For 2023-2024 Academic Year Fall Semester;

| 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 | |
| | Program Outputs | Midterm | Midterm | Final | Quiz | Homework | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | |
| | 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 |
| | Program Outputs | Midterm | Midterm | Quiz | Homework | Final | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | 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 dönem toplamlarının en az G olması / *M1: T% of the students to have a semester total of at least G*
- M2: Öğrencilerin %T'sinin dönem toplamlarının en az bölümdeki dönem toplamlarının ortalaması kadar olması / *M2: T% of the students of the department to have a semester total of at least that of the department average*
- M3: Öğrencilerin dönem toplamlarının ortalamasının en az G olması / *M3: Average semester total of students of the department to be at least G*
- M4: Öğrencilerin %T'sinin dönem toplamlarının en az tüm bölümlerdeki tüm öğrencilerin dönem toplamlarının ortalaması kadar olması / *M4: T% of the students of the department to have a semester total of at least average semester total of all students from all departments*

4.2.1.2. 2023-2024 Akademik Yılı Bahar Dönemi için / For 2023-2024 Academic Year Spring Semester;

| Course Code | Program Outputs | Midterm:Essay/ written | Midterm:Essay/ written | Final:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | |
|-------------|-----------------|---------------------------|---------------------------|--|-------------------------------------|--|-------------------------------------|--------------------------------|--|
| CHEM 101 | a | 30 | 30 | 40 | 100 | M1 | 50 | 50 | |
| | Program Outputs | Final:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | b | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | c | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | d | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | e | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | f | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| g | 100 | 100 | M1 | 50 | 50 | | | | |
| Course Code | Program Outputs | Midterm:Essay/ written | Midterm:Essay/ written | Final:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | |
| CHEM 102 | a | 30 | 30 | 40 | 100 | M1 | 50 | 50 | |
| | Program Outputs | Final:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | b | 100 | 100 | M1 | 50 | 50 | | | |

| Course Code | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
|-------------|-----------------|-------------------------|---------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------|-----------------------------|--|
| CHEM 102 | c | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | d | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | e | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | f | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Final:Essay/ written | Homework | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | |
| | h | 80 | 20 | 100 | M1 | 50 | 50 | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | i | 100 | 100 | M1 | 50 | 50 | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| j | 100 | 100 | M1 | 50 | 50 | | | | |
| | | | | | | | | | |
| Course Code | Program Outputs | Final:Essay/ written | Midterm:Essay/ written | Midterm:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | |
| CHEM 212 | a | 40 | 30 | 30 | 100 | M1 | 50 | 50 | |
| | Program Outputs | Final:Essay/ written | Midterm:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | |
| | d | 50 | 50 | 100 | M1 | 50 | 50 | | |
| | | | | | | | | | |
| Course Code | Program Outputs | Final:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| CHEM 213 | a | 100 | 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 | Quiz | Quiz | Quiz | Quiz | Quiz | |
|-------------|-------------------------------|-----------------------------|-----------------------|----------------------------------|-------------------------------|----------------------------------|----------------------------------|-------------------------------|----------------------------------|-------------------------------|-----------------------------|--------------------|----------------------------------|
| CHEM 213 | c | 11 | 11 | 11 | 11 | 10 | 10 | 6 | 6 | 6 | 6 | 6 | |
| | | Quiz | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | |
| | | 6 | 100 | M1 | 50 | 50 | | | | | | | |
| | Program Outputs | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Quiz | Quiz | Quiz | Quiz | Quiz | |
| | d | 11 | 11 | 11 | 11 | 10 | 10 | 6 | 6 | 6 | 6 | 6 | |
| | | Quiz | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | |
| | | 6 | 100 | M1 | 50 | 50 | | | | | | | |
| | Program Outputs | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Papers(s)/Reports | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | |
| | e | 16 | 17 | 17 | 17 | 17 | 16 | 100 | M1 | 50 | 50 | | |
| | 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 | Total Contribution | Qualification Calculation Method |
| i | 11 | 11 | 11 | 11 | 12 | 11 | 11 | 11 | 11 | 11 | 100 | M1 | |
| | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | | | |
| | 50 | 50 | | | | | | | | | | | |
| Course Code | Program Outputs | Midterm:Essay/written | Midterm:Essay/written | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | |
| CHEM 232 | a | 30 | 30 | 40 | 100 | M1 | 50 | 50 | | | | | |
| | Program Outputs | Homework | Homework | Homework | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | g | 20 | 20 | 20 | 40 | 100 | M1 | 50 | 50 | | | | |
| | Program Outputs | Homework | Homework | Homework | Homework | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | | | | | |
| | h | 25 | 25 | 25 | 25 | 100 | M3 | 60 | | | | | |

| Course Code | Program Outputs | Final:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | |
|-------------|---|---|--|--|-------------------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|---------------------------------|-------------------------------|---|--|
| CHEM 236 | a | 100 | 100 | M1 | 50 | 50 | | | | | | | |
| | 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 | In-Lab Participation | Total Contribution |
| | c | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 | 100 |
| | | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | |
| | | M1 | 50 | 50 | | | | | | | | | |
| | 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 | In-Lab Participation | Total Contribution |
| | d | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 | 100 |
| | | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | |
| | | M1 | 50 | 50 | | | | | | | | | |
| | 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 | In-Lab Participation | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade |
| | e | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 2 | 100 | M3 | 60 |
| | 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 | In-Lab Participation | Total Contribution |
| | f | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 | 100 |
| | | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | |
| | | M1 | 50 | 50 | | | | | | | | | |
| | 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 | In-Lab Participation | Total Contribution |
| | g | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 | 100 |
| | | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | |
| | | M1 | 50 | 50 | | | | | | | | | |
| | 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 | In-Lab Participation | Total Contribution |
| h | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 | 100 | |
| | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | | |
| | 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 | In-Lab Participation | Total Contribution | |
|-------------|-----------------|----------------------------------|-------------------------------|-----------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------|--------------------|--|
| CHEM 236 | i | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 | 100 | |
| | | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | | |
| | | M1 | 50 | 50 | | | | | | | | | | |
| | 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 | In-Lab Participation | Total Contribution | |
| | j | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 1 | 100 | |
| | | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | | |
| M1 | | 50 | 50 | | | | | | | | | | | |

| Course Code | Program Outputs | Midterm:Essay/written | Final:Essay/written | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | |
|-------------|-----------------|-----------------------|---------------------|----------------------------------|-------------------------------|----------------------------------|-------------------------------|-----------------------------|--|--|
| CHEM 324 | a | 30 | 50 | 20 | 100 | M1 | 50 | 50 | | |
| | Program Outputs | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | b | 100 | 100 | M1 | 50 | 50 | | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | c | 100 | 100 | M1 | 50 | 50 | | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | d | 100 | 100 | M1 | 50 | 50 | | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | e | 100 | 100 | M1 | 50 | 50 | | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | g | 100 | 100 | M1 | 50 | 50 | | | | |
| | Program Outputs | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| j | 100 | 100 | M1 | 50 | 50 | | | | | |

| Course Code | Program Outputs | Final Exam | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
|-------------|-----------------|------------|--------------------|----------------------------------|-------------------------------|-----------------------------|
| CHEM 328 | a | 100 | 100 | M1 | 50 | 50 |
| | Program Outputs | Final Exam | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | b | 100 | 100 | M1 | 50 | 50 |
| | Program Outputs | Final Exam | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | i | 100 | 100 | M1 | 50 | 50 |
| | Program Outputs | Final Exam | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| j | 100 | 100 | M1 | 50 | 50 | |

| Course Code | Program Outputs | Reports | Reports | Reports | Reports | Reports | Reports | Reports | Midterm:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade |
|-------------|-----------------|-----------------------------|---------|---------|---------|---------|---------|---------|-----------------------|--------------------|----------------------------------|-------------------------------|
| CHEM 340 | a | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 9 | 100 | M1 | 50 |
| | | Qualification Threshold (%) | | | | | | | | | | |
| | | 50 | | | | | | | | | | |
| | Program Outputs | Reports | Reports | Reports | Reports | Reports | Reports | Reports | Midterm:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade |
| | c | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 9 | 100 | M1 | 50 |
| | | Qualification Threshold (%) | | | | | | | | | | |
| | | 50 | | | | | | | | | | |
| | Program Outputs | Reports | Reports | Reports | Reports | Reports | Reports | Reports | Midterm:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade |
| | d | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 9 | 100 | M1 | 50 |
| | | Qualification Threshold (%) | | | | | | | | | | |
| | | 50 | | | | | | | | | | |
| | Program Outputs | Reports | Reports | Reports | Reports | Reports | Reports | Reports | Midterm:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade |
| | e | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 9 | 100 | M1 | 50 |
| | | Qualification Threshold (%) | | | | | | | | | | |
| 50 | | | | | | | | | | | | |

| Course Code | Program Outputs | Reports | Reports | Reports | Reports | Reports | Reports | Reports | Midterm:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | |
|-------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------|----------------------------------|-------------------------------|-----------------------------|--------------------|----------------------------------|-------------------------------|--|
| CHEM 340 | f | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 9 | 100 | M1 | 50 | |
| | | Qualification Threshold (%) | | | | | | | | | | | |
| | | 50 | | | | | | | | | | | |
| | Program Outputs | Reports | Reports | Reports | Reports | Reports | Reports | Reports | Midterm:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | |
| | g | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 9 | 100 | M1 | 50 | |
| | | Qualification Threshold (%) | | | | | | | | | | | |
| | | 50 | | | | | | | | | | | |
| | Program Outputs | Project Presentation/ Report | Project Presentation/ Report | Project Presentation/ Report | Project Presentation/ Report | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | h | 25 | 25 | 25 | 25 | 100 | M1 | 50 | 50 | | | | |
| | Program Outputs | Reports | Reports | Reports | Reports | Reports | Reports | Reports | Midterm:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | |
| i | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 9 | 100 | M1 | 50 | | |
| | Qualification Threshold (%) | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | |

| Course Code | Program Outputs | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
|-------------|-----------------|---------------------|--------------------|----------------------------------|-------------------------------|-----------------------------|
| CHEM 342 | a | 100 | 100 | M1 | 50 | 50 |
| | Program Outputs | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | b | 100 | 100 | M1 | 50 | 50 |
| | Program Outputs | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| h | 100 | 100 | M1 | 50 | 50 | |

| Course Code | Program Outputs | Midterm:Essay/written | Midterm | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
|-------------|-----------------|-----------------------|---------|---------------------|--------------------|----------------------------------|-------------------------------|-----------------------------|
| CHEM 422 | a | 30 | 30 | 40 | 100 | M1 | 50 | 50 |
| | Program Outputs | Midterm:Essay/written | Midterm | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | b | 30 | 30 | 40 | 100 | M1 | 50 | 50 |

| Course Code | Program Outputs | Homework | Homework | Homework | Homework | Midterm | Project | Term project | Presentations | In-class participation | Total Contribution | Qualification Calculation Method | |
|-------------|-----------------|-------------------------------|-----------------------------|----------|----------|---------|---------|--------------|---------------|------------------------|--------------------|----------------------------------|--|
| COMD 358 | i | 5 | 5 | 5 | 5 | 25 | 30 | 10 | 10 | 5 | 100 | M1 | |
| | | (Average) Qualification Grade | Qualification Threshold (%) | | | | | | | | | | |
| | | 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 | Qualification Threshold (%) |
|-------------|-----------------|------------------|-------|-------------------|------------------------|---|-------------------------------|-------|--------------------|----------------------------------|-------------------------------|-----------------------------|
| ENG 101 | g | 10 | 20 | 25 | 5 | 8 | 7 | 25 | 100 | M1 | 50 | 50 |
| | 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 | Qualification Threshold (%) |
| | i | 10 | 20 | 25 | 5 | 8 | 7 | 25 | 100 | M1 | 50 | 50 |

| Course Code | Program Outputs | Library Skills Task | Academic Essay | Oral Presentation | Research Paper Outline | Research essay | Interviews | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
|-------------|-----------------|---------------------|----------------|-------------------|------------------------|----------------|------------|--------------------|----------------------------------|-------------------------------|-----------------------------|
| ENG 102 | i | 5 | 20 | 20 | 10 | 30 | 15 | 100 | M1 | 70 | 70 |

| Course Code | Program Outputs | In-class participation | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade |
|-------------|-----------------|------------------------|--------------------|----------------------------------|-------------------------------|
| GE 100 | k | 100 | 100 | M3 | 50 |

| Course Code | Program Outputs | In-class participation | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | | | | | | |
|-------------|-----------------|------------------------|------------------------|----------------------------------|-------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------|-----------------------------|--|
| GE 251 | k | 100 | 100 | M3 | 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 | 30 | 10 | 100 | M1 | 60 | 75 | | |
| Course Code | Program Outputs | Quizzes | In-class participation | Final:Essay/written | Project | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | |
| HUM 112 | i | 30 | 30 | 30 | 10 | 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 | |
| | Program Outputs | Midterm | Midterm | Final | Quiz | Homework | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | |
| | i | 25 | 25 | 30 | 10 | 10 | 100 | M1 | 40 | 50 | |
| Course Code | Program Outputs | Midterm:Essay/written | Midterm:Essay/written | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| MATH 102 | b | 30 | 30 | 40 | 100 | M1 | 40 | 50 | | | |
| | Program Outputs | Midterm:Essay/written | Midterm:Essay/written | Final:Essay/written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | |
| | c | 30 | 30 | 40 | 100 | M1 | 40 | 50 | | | |

| Course Code | Program Outputs | Midterm:Essay /written | Midterm:Essay /written | Final:Essay/ written | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
|-------------|-----------------|------------------------|------------------------|----------------------|--------------------|----------------------------------|-------------------------------|-----------------------------|
| MATH 102 | i | 30 | 30 | 40 | 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 |
| | Program Outputs | Midterm | Midterm | Quiz | Homework | Final | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | f | 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 (%) |
| | 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 | Midterm | Midterm | Quiz | Homework | Final | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
|-------------|-----------------|---------|---------|--------------------|----------------------------------|-------------------------------|-----------------------------|--------------------|----------------------------------|-------------------------------|-----------------------------|
| PHYS 102 | b | 15 | 20 | 25 | 20 | 10 | 10 | 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 | 25 | 20 | 10 | 10 | 100 | M1 | 50 | 50 |
| | Program Outputs | Midterm | Midterm | Quiz | Homework | Final | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | f | 15 | 20 | 25 | 20 | 10 | 10 | 100 | M1 | 50 | 50 |
| | Program Outputs | Midterm | Midterm | Quiz | Homework | Final | Lab work | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) |
| | h | 15 | 20 | 25 | 20 | 10 | 10 | 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 | 25 | 20 | 10 | 10 | 100 | M1 | 50 | 50 | |
| Course Code | Program Outputs | Blog | Final | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| TURK 101 | h | 70 | 30 | 100 | M1 | 70 | 60 | | | | |
| | Program Outputs | Blog | Final | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | 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 | h | 70 | 30 | 100 | M1 | 70 | 60 | | | | |
| | Program Outputs | Blog | Final | Total Contribution | Qualification Calculation Method | (Average) Qualification Grade | Qualification Threshold (%) | | | | |
| | 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 dönem toplamlarının en az G olması / M1: T% of the students to have a semester total of at least G
- M2: Öğrencilerin %T'sinin dönem toplamlarının en az bölümdeki dönem toplamlarının ortalaması kadar olması / M2: T% of the students of the department to have a semester total of at least that of the department average
- M3: Öğrencilerin dönem toplamlarının ortalamasının en az G olması / M3: Average semester total of students of the department to be at least G
- M4: Öğrencilerin %T'sinin dönem toplamlarının en az tüm bölümlerdeki tüm öğrencilerin dönem toplamlarının ortalaması kadar olması / M4: T% of the students of the department to have a semester total of at least average semester total of all students from all departments

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

4.2.2.1. 2023-2024 Akademik Yılı Güz Dönemi için / For 2023-2024 Academic Year Fall Semester;

| 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 |

4.2.2.2. 2023-2024 Akademik Yılı Bahar Dönemi için / For 2023-2024 Academic Year Spring Semester;

| 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 | M1 | 50 | 50 | 51 | 13 | 58.84 | 54.2 | 33 | 8 | 64.71 | 61.54 | Yeterli ✓ / Sufficient ✓ | 61.54 |
| b | M1 | 50 | 50 | 51 | 13 | 59.5 | 54.55 | 36 | 8 | 70.59 | 61.54 | Yeterli ✓ / Sufficient ✓ | 61.54 |
| c | M1 | 50 | 50 | 51 | 13 | 77.05 | 75.15 | 51 | 13 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| d | M1 | 50 | 50 | 51 | 13 | 77.05 | 75.15 | 51 | 13 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| e | M1 | 50 | 50 | 51 | 13 | 77.05 | 75.15 | 51 | 13 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| f | M1 | 50 | 50 | 51 | 13 | 77.05 | 75.15 | 51 | 13 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| g | M1 | 50 | 50 | 51 | 13 | 77.05 | 75.15 | 51 | 13 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| CHEM 102 - Kimyanın Temelleri II / CHEM 102 - Principles of Chemistry II | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 78 | 27 | 62.27 | 61.56 | 62 | 20 | 79.49 | 74.07 | Yeterli ✓ / Sufficient ✓ | 74.07 |
| b | M1 | 50 | 50 | 78 | 27 | 58.82 | 56.87 | 57 | 18 | 73.08 | 66.67 | Yeterli ✓ / Sufficient ✓ | 66.67 |
| c | M1 | 50 | 50 | 78 | 27 | 85.97 | 85.81 | 78 | 27 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| d | M1 | 50 | 50 | 78 | 27 | 85.97 | 85.81 | 78 | 27 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| e | M1 | 50 | 50 | 78 | 27 | 85.97 | 85.81 | 78 | 27 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| f | M1 | 50 | 50 | 78 | 27 | 85.97 | 85.81 | 78 | 27 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| h | M1 | 50 | 50 | 78 | 27 | 61.48 | 58.1 | 59 | 18 | 75.64 | 66.67 | Yeterli ✓ / Sufficient ✓ | 66.67 |
| i | M1 | 50 | 50 | 78 | 27 | 85.97 | 85.81 | 78 | 27 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| j | M1 | 50 | 50 | 78 | 27 | 85.97 | 85.81 | 78 | 27 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |

| 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 212 - Analitik Kimya II / CHEM 212 - Analytical Chemistry II | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 32 | 32 | 55.94 | 55.94 | 19 | 19 | 59.38 | 59.38 | Yeterli ✓ / Sufficient ✓ | 59.38 |
| d | M1 | 50 | 50 | 32 | 32 | 52.98 | 52.98 | 16 | 16 | 50 | 50 | Yeterli ✓ / Sufficient ✓ | 50 |
| CHEM 213 - Analitik Kimya Laboratuvarı I / CHEM 213 - Analytical Chemistry Laboratory I | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 20 | 20 | 86 | 86 | 20 | 20 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| c | M1 | 50 | 50 | 20 | 20 | 85.46 | 85.46 | 20 | 20 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| d | M1 | 50 | 50 | 20 | 20 | 85.46 | 85.46 | 20 | 20 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| e | M1 | 50 | 50 | 20 | 20 | 91.64 | 91.64 | 20 | 20 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| i | M1 | 50 | 50 | 20 | 20 | 90.2 | 90.2 | 20 | 20 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| CHEM 232 - Organik Kimya II / CHEM 232 - Organic Chemistry II | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 25 | 25 | 59.45 | 59.45 | 16 | 16 | 64 | 64 | Yeterli ✓ / Sufficient ✓ | 64 |
| g | M1 | 50 | 50 | 25 | 25 | 71.52 | 71.52 | 23 | 23 | 92 | 92 | Yeterli ✓ / Sufficient ✓ | 92 |
| h | M3 | 60 | | 25 | 25 | 79.61 | 79.61 | 22 | 22 | 88 | 88 | Yeterli ✓ / Sufficient ✓ | 79.61 |
| CHEM 236 - Organik Kimya Laboratuvarı II / CHEM 236 - Organic Chemistry Laboratory II | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 23 | 23 | 65.71 | 65.71 | 17 | 17 | 73.91 | 73.91 | Yeterli ✓ / Sufficient ✓ | 73.91 |
| c | M1 | 50 | 50 | 23 | 23 | 82.77 | 82.77 | 22 | 22 | 95.65 | 95.65 | Yeterli ✓ / Sufficient ✓ | 95.65 |
| d | M1 | 50 | 50 | 23 | 23 | 82.77 | 82.77 | 22 | 22 | 95.65 | 95.65 | Yeterli ✓ / Sufficient ✓ | 95.65 |
| e | M3 | 60 | | 23 | 23 | 83.93 | 83.93 | 21 | 21 | 91.3 | 91.3 | Yeterli ✓ / Sufficient ✓ | 83.93 |
| f | M1 | 50 | 50 | 23 | 23 | 82.77 | 82.77 | 22 | 22 | 95.65 | 95.65 | Yeterli ✓ / Sufficient ✓ | 95.65 |
| g | M1 | 50 | 50 | 23 | 23 | 82.77 | 82.77 | 22 | 22 | 95.65 | 95.65 | Yeterli ✓ / Sufficient ✓ | 95.65 |

| 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 236 - Organik Kimya Laboratuvarı II / CHEM 236 - Organic Chemistry Laboratory II | | | | | | | | | | | | | |
| h | M1 | 50 | 50 | 23 | 23 | 82.77 | 82.77 | 22 | 22 | 95.65 | 95.65 | Yeterli ✓ / Sufficient ✓ | 95.65 |
| i | M1 | 50 | 50 | 23 | 23 | 82.77 | 82.77 | 22 | 22 | 95.65 | 95.65 | Yeterli ✓ / Sufficient ✓ | 95.65 |
| j | M1 | 50 | 50 | 23 | 23 | 82.77 | 82.77 | 22 | 22 | 95.65 | 95.65 | Yeterli ✓ / Sufficient ✓ | 95.65 |
| CHEM 324 - Fizikokimya II / CHEM 324 - Physical Chemistry II | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 23 | 23 | 60.18 | 60.18 | 17 | 17 | 73.91 | 73.91 | Yeterli ✓ / Sufficient ✓ | 73.91 |
| b | M1 | 50 | 50 | 23 | 23 | 58.52 | 58.52 | 15 | 15 | 65.22 | 65.22 | Yeterli ✓ / Sufficient ✓ | 65.22 |
| c | M1 | 50 | 50 | 23 | 23 | 89.04 | 89.04 | 23 | 23 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| d | M1 | 50 | 50 | 23 | 23 | 89.04 | 89.04 | 23 | 23 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| e | M1 | 50 | 50 | 23 | 23 | 89.04 | 89.04 | 23 | 23 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| g | M1 | 50 | 50 | 23 | 23 | 89.04 | 89.04 | 23 | 23 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| j | M1 | 50 | 50 | 23 | 23 | 89.04 | 89.04 | 23 | 23 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| CHEM 328 - Kuantum Kimyası II / CHEM 328 - Quantum Chemistry II | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 20 | 20 | 51.8 | 51.8 | 12 | 12 | 60 | 60 | Yeterli ✓ / Sufficient ✓ | 60 |
| b | M1 | 50 | 50 | 20 | 20 | 51.8 | 51.8 | 12 | 12 | 60 | 60 | Yeterli ✓ / Sufficient ✓ | 60 |
| i | M1 | 50 | 50 | 20 | 20 | 51.8 | 51.8 | 12 | 12 | 60 | 60 | Yeterli ✓ / Sufficient ✓ | 60 |
| j | M1 | 50 | 50 | 20 | 20 | 51.8 | 51.8 | 12 | 12 | 60 | 60 | Yeterli ✓ / Sufficient ✓ | 60 |
| CHEM 340 - Anorganik Kimya Laboratuvarı / CHEM 340 - Inorganic Chemistry Laboratory | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 23 | 22 | 84.78 | 84.73 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| c | M1 | 50 | 50 | 23 | 22 | 84.78 | 84.73 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| d | M1 | 50 | 50 | 23 | 22 | 84.78 | 84.73 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |

| 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 340 - Anorganik Kimya Laboratuvarı / CHEM 340 - Inorganic Chemistry Laboratory | | | | | | | | | | | | | |
| e | M1 | 50 | 50 | 23 | 22 | 84.78 | 84.73 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| f | M1 | 50 | 50 | 23 | 22 | 84.78 | 84.73 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| g | M1 | 50 | 50 | 23 | 22 | 84.78 | 84.73 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| h | M1 | 50 | 50 | 23 | 22 | 88.46 | 88.16 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| i | M1 | 50 | 50 | 23 | 22 | 84.78 | 84.73 | 23 | 22 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| CHEM 342 - Anorganik Kimya II / CHEM 342 - Inorganic Chemistry II | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 23 | 22 | 56.7 | 56.68 | 14 | 13 | 60.87 | 59.09 | Yeterli ✓ / Sufficient ✓ | 59.09 |
| b | M1 | 50 | 50 | 23 | 22 | 56.7 | 56.68 | 14 | 13 | 60.87 | 59.09 | Yeterli ✓ / Sufficient ✓ | 59.09 |
| h | M1 | 50 | 50 | 23 | 22 | 56.7 | 56.68 | 14 | 13 | 60.87 | 59.09 | Yeterli ✓ / Sufficient ✓ | 59.09 |
| CHEM 422 - İstatistiksel Termodinamiğe Giriş / CHEM 422 - Introduction to Statistical Thermodynamics | | | | | | | | | | | | | |
| a | M1 | 50 | 50 | 21 | 21 | 54.46 | 54.46 | 12 | 12 | 57.14 | 57.14 | Yeterli ✓ / Sufficient ✓ | 57.14 |
| b | M1 | 50 | 50 | 21 | 21 | 54.46 | 54.46 | 12 | 12 | 57.14 | 57.14 | Yeterli ✓ / Sufficient ✓ | 57.14 |
| COMD 358 - Profesyonel İletişim / COMD 358 - Professional Communication | | | | | | | | | | | | | |
| i | M1 | 60 | 70 | 362 | 10 | 84.12 | 87.85 | 357 | 10 | 98.62 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| CS 115 - Python ile Programlamaya Giriş / CS 115 - Introduction to Programming in Python | | | | | | | | | | | | | |
| c | M1 | 40 | 75 | 245 | 4 | 67.23 | 47.37 | 236 | 3 | 96.33 | 75 | Yeterli ✓ / Sufficient ✓ | 75 |
| d | M1 | 40 | 75 | 245 | 4 | 67.23 | 47.37 | 236 | 3 | 96.33 | 75 | Yeterli ✓ / Sufficient ✓ | 75 |
| g | M1 | 40 | 75 | 245 | 4 | 67.23 | 47.37 | 236 | 3 | 96.33 | 75 | Yeterli ✓ / Sufficient ✓ | 75 |

| Program Çıktısı/ Program Outcome | Yeterlilik Hesaplama Yöntemi/ Method | (Ortalama) Yeterlilik Notu/ Minimum Successful Grade | Yeterlilik Eşiği (%) / Treshold 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 |
|---|---|---|---|---|---|--|--|--|---|--|---|-----------------------------|-------------------------------------|
| ENG 101 - İngilizce ve Kompozisyon I / ENG 101 - English and Composition I | | | | | | | | | | | | | |
| g | M1 | 50 | 50 | 740 | 13 | 82.1 | 83.84 | 737 | 13 | 99.59 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| i | M1 | 50 | 50 | 740 | 13 | 82.1 | 83.84 | 737 | 13 | 99.59 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| ENG 102 - İngilizce ve Kompozisyon II / ENG 102 - English and Composition II | | | | | | | | | | | | | |
| i | M1 | 70 | 70 | 1495 | 26 | 84.92 | 83.45 | 1428 | 24 | 95.52 | 92.31 | Yeterli ✓ / Sufficient ✓ | 92.31 |
| GE 100 - Üniversite Hayatına Giriş / GE 100 - Orientation | | | | | | | | | | | | | |
| k | M3 | 50 | | 587 | 12 | 96.22 | 92.92 | 587 | 12 | 100 | 100 | Yeterli ✓ / Sufficient ✓ | 92.92 |
| GE 251 - Üniversite Etkinlik Programı II / GE 251 - Collegiate Activities Program II | | | | | | | | | | | | | |
| k | M3 | 70 | | 1375 | 14 | 93.49 | 94.64 | 1287 | 14 | 93.6 | 100 | Yeterli ✓ / Sufficient ✓ | 94.64 |
| HIST 200 - Türkiye Tarihi / HIST 200 - History of Turkey | | | | | | | | | | | | | |
| h | M1 | 70 | 75 | 968 | 20 | 92.06 | 94.21 | 931 | 20 | 96.18 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| HUM 111 - Kültürler, Medeniyetler ve Düşünceler I / HUM 111 - Cultures Civilizations and Ideas I | | | | | | | | | | | | | |
| i | M1 | 60 | 75 | 465 | 8 | 81.39 | 83.24 | 458 | 8 | 98.49 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| HUM 112 - Kültürler, Medeniyetler ve Düşünceler II / HUM 112 - Cultures Civilizations and Ideas II | | | | | | | | | | | | | |
| i | M1 | 60 | 75 | 937 | 23 | 85.51 | 87.2 | 916 | 23 | 97.76 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| MATH 101 - Matematik I / MATH 101 - Calculus I | | | | | | | | | | | | | |
| b | M1 | 40 | 50 | 263 | 12 | 58.04 | 43.18 | 217 | 8 | 82.51 | 66.67 | Yeterli ✓ / Sufficient ✓ | 66.67 |
| c | M1 | 40 | 50 | 263 | 12 | 58.04 | 43.18 | 217 | 8 | 82.51 | 66.67 | Yeterli ✓ / Sufficient ✓ | 66.67 |
| i | M1 | 40 | 50 | 263 | 12 | 58.04 | 43.18 | 217 | 8 | 82.51 | 66.67 | Yeterli ✓ / Sufficient ✓ | 66.67 |

| 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 |
|--|---|---|--|--|--|--|--|--|---|--|---|--|-------------------------------------|
| MATH 102 - Matematik II / MATH 102 - Calculus II | | | | | | | | | | | | | |
| b | M1 | 40 | 50 | 694 | 31 | 55.51 | 46.28 | 518 | 18 | 74.64 | 58.06 | Yeterli ✓ / Sufficient ✓ | 58.06 |
| c | M1 | 40 | 50 | 694 | 31 | 55.51 | 46.28 | 518 | 18 | 74.64 | 58.06 | Yeterli ✓ / Sufficient ✓ | 58.06 |
| i | M1 | 40 | 50 | 694 | 31 | 55.51 | 46.28 | 518 | 18 | 74.64 | 58.06 | Yeterli ✓ / Sufficient ✓ | 58.06 |
| MATH 225 - Doğrusal Cebir ve Türevsel Denklemler / MATH 225 - Linear Algebra and Differential Equations | | | | | | | | | | | | | |
| b | M1 | 40 | 50 | 209 | 16 | 47.58 | 36.97 | 128 | 6 | 61.24 | 37.5 | İyileştirmeye Açık! / Insufficient! | 37.5 |
| g | M1 | 40 | 50 | 209 | 16 | 47.58 | 36.97 | 128 | 6 | 61.24 | 37.5 | İyileştirmeye Açık! / Insufficient! | 37.5 |
| MBG 110 - Modern Biyolojiye Giriş / MBG 110 - Introduction to Modern Biology | | | | | | | | | | | | | |
| h | M1 | 50 | 50 | 446 | 10 | 70.85 | 68.82 | 410 | 10 | 91.93 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| j | M1 | 50 | 50 | 446 | 10 | 70.85 | 68.82 | 410 | 10 | 91.93 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| PHYS 101 - Genel Fizik I / PHYS 101 - General Physics I | | | | | | | | | | | | | |
| b | M1 | 50 | 50 | 274 | 12 | 65.93 | 58.93 | 223 | 10 | 81.39 | 83.33 | Yeterli ✓ / Sufficient ✓ | 83.33 |
| c | M1 | 50 | 50 | 274 | 12 | 65.93 | 58.93 | 223 | 10 | 81.39 | 83.33 | Yeterli ✓ / Sufficient ✓ | 83.33 |
| f | M1 | 50 | 50 | 274 | 12 | 65.93 | 58.93 | 223 | 10 | 81.39 | 83.33 | Yeterli ✓ / Sufficient ✓ | 83.33 |
| h | M1 | 50 | 50 | 274 | 12 | 65.93 | 58.93 | 223 | 10 | 81.39 | 83.33 | Yeterli ✓ / Sufficient ✓ | 83.33 |
| i | M1 | 50 | 50 | 274 | 12 | 65.93 | 58.93 | 223 | 10 | 81.39 | 83.33 | Yeterli ✓ / Sufficient ✓ | 83.33 |
| PHYS 102 - Genel Fizik II / PHYS 102 - General Physics II | | | | | | | | | | | | | |
| b | M1 | 50 | 50 | 647 | 26 | 69.93 | 59.88 | 577 | 17 | 89.18 | 65.38 | Yeterli ✓ / Sufficient ✓ | 65.38 |
| c | M1 | 50 | 50 | 647 | 26 | 69.93 | 59.88 | 577 | 17 | 89.18 | 65.38 | Yeterli ✓ / Sufficient ✓ | 65.38 |

| 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 |
|--|---|---|--|--|--|---|---|---|--|---|--|-----------------------------|------------------------------------|
| PHYS 102 - Genel Fizik II / PHYS 102 - General Physics II | | | | | | | | | | | | | |
| f | M1 | 50 | 50 | 647 | 26 | 69.93 | 59.88 | 577 | 17 | 89.18 | 65.38 | Yeterli ✓ / Sufficient ✓ | 65.38 |
| h | M1 | 50 | 50 | 647 | 26 | 69.93 | 59.88 | 577 | 17 | 89.18 | 65.38 | Yeterli ✓ / Sufficient ✓ | 65.38 |
| i | M1 | 50 | 50 | 647 | 26 | 69.93 | 59.88 | 577 | 17 | 89.18 | 65.38 | Yeterli ✓ / Sufficient ✓ | 65.38 |
| TURK 101 - Türkçe I / TURK 101 - Turkish I | | | | | | | | | | | | | |
| h | M1 | 70 | 60 | 612 | 12 | 86.39 | 85.72 | 605 | 12 | 98.86 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| i | M1 | 70 | 60 | 612 | 12 | 86.39 | 85.72 | 605 | 12 | 98.86 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| TURK 102 - Türkçe II / TURK 102 - Turkish II | | | | | | | | | | | | | |
| h | M1 | 70 | 60 | 1438 | 24 | 88.83 | 91 | 1425 | 24 | 99.1 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |
| i | M1 | 70 | 60 | 1438 | 24 | 88.83 | 91 | 1425 | 24 | 99.1 | 100 | Yeterli ✓ / Sufficient ✓ | 100 |

4.3. PERFORMANS ÖLÇÜM SONUÇLARI / PERFORMANCE MEASUREMENT RESULTS

4.3.1. PROGRAM ÇIKTILARI PERFORMANS TABLOSU / PROGRAM OUTCOMES PERFORMANCE TABLE

4.3.1.1. 2023-2024 Akademik Yılı Güz Dönemi için / For 2023-2024 Academic Year Fall Semester;

| 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.4.3.1.1. 2023-2024 Akademik Yılı Güz Dönemi Kimya Lisans Programı Program Çıktıları Performans Tablosu / **Table.4.3.1.1.** 2023-2024 Academic Year Fall Semester Chemistry Undergraduate Program - Program Outcomes Performance Table

4.3.1.2. 2023-2024 Akademik Yılı Bahar Dönemi için / For 2023-2024 Academic Year Spring Semester;

| Dersler / Courses | Program Çıktıları / Program Outcomes | | | | | | | | | | |
|----------------------|--------------------------------------|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | d | e | f | g | h | i | j | k |
| CHEM 101 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| CHEM 102 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| CHEM 212 | ✓ | | | ✓ | | | | | | | |
| CHEM 213 | ✓ | | ✓ | ✓ | ✓ | | | | ✓ | | |
| CHEM 232 | ✓ | | | | | | ✓ | ✓ | | | |
| CHEM 236 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| CHEM 324 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ✓ | |
| CHEM 328 | ✓ | ✓ | | | | | | | ✓ | ✓ | |
| CHEM 340 | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| CHEM 342 | ✓ | ✓ | | | | | | ✓ | | | |
| CHEM 422 | ✓ | ✓ | | | | | | | | | |
| COMD 358 | | | | | | | | | ✓ | | |
| CS 115 | | | ✓ | ✓ | | | ✓ | | | | |
| ENG 101 | | | | | | | ✓ | | ✓ | | |
| ENG 102 | | | | | | | | | ✓ | | |
| GE 100 | | | | | | | | | | | ✓ |
| GE 251 | | | | | | | | | | | ✓ |
| HIST 200 | | | | | | | | ✓ | | | |
| HUM 111 | | | | | | | | | ✓ | | |
| HUM 112 | | | | | | | | | ✓ | | |
| MATH 101 | | ✓ | ✓ | | | | | | ✓ | | |
| MATH 102 | | ✓ | ✓ | | | | | | ✓ | | |
| MATH 225 | | X | | | | | X | | | | |
| MBG 110 | | | | | | | | ✓ | | ✓ | |
| PHYS 101 | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | | |
| PHYS 102 | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | | |
| TURK 101 | | | | | | | | ✓ | ✓ | | |
| TURK 102 | | | | | | | | ✓ | ✓ | | |

Tablo.4.3.1.2. 2023-2024 Akademik Yılı Bahar Dönemi Kimya Lisans Programı Program Çıktıları Performans Tablosu / **Table.4.3.1.2.** 2023-2024 Academic Year Spring Semester Chemistry Undergraduate Program - Program Outcomes Performance Table

4.3.2. PROGRAM ÇIKTILARI PERFORMANS ORANLARI / PROGRAM OUTCOMES PERFORMANCE RATES

4.3.2.1. 2023-2024 Akademik Yılı Güz Dönemi için / For 2023-2024 Academic Year Fall Semester;

| 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 | | | | |
| MBG 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.4.3.2.1. 2023-2024 Akademik Yılı Güz Dönemi Kimya Lisans Programı Program Çıktıları Performans Oranları Tablosu / **Table.4.3.2.1.** 2023-2024 Academic Year Fall Semester Chemistry Undergraduate Program - Program Outcomes Performance Rates Table

4.3.2.2. 2023-2024 Akademik Yılı Bahar Dönemi için / For 2023-2024 Academic Year Spring Semester;

| Dersler / Courses | Program Çıktıları / Program Outcomes | | | | | | | | | | |
|----------------------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | a | b | c | d | e | f | g | h | i | j | k |
| CHEM 101 | 61.54 | 61.54 | 100 | 100 | 100 | 100 | 100 | | | | |
| CHEM 102 | 74.07 | 66.67 | 100 | 100 | 100 | 100 | | 66.67 | 100 | 100 | |
| CHEM 212 | 59.38 | | | 50 | | | | | | | |
| CHEM 213 | 100 | | 100 | 100 | 100 | | | | 100 | | |
| CHEM 232 | 64 | | | | | | 92 | 79.61 | | | |
| CHEM 236 | 73.91 | | 95.65 | 95.65 | 83.93 | 95.65 | 95.65 | 95.65 | 95.65 | 95.65 | |
| CHEM 324 | 73.91 | 65.22 | 100 | 100 | 100 | | 100 | | | 100 | |
| CHEM 328 | 60 | 60 | | | | | | | 60 | 60 | |
| CHEM 340 | 100 | | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | |
| CHEM 342 | 59.09 | 59.09 | | | | | | 59.09 | | | |
| CHEM 422 | 57.14 | 57.14 | | | | | | | | | |
| COMD 358 | | | | | | | | | 100 | | |
| CS 115 | | | 75 | 75 | | | 75 | | | | |
| ENG 101 | | | | | | | 100 | | 100 | | |
| ENG 102 | | | | | | | | | 92.31 | | |
| GE 100 | | | | | | | | | | | 92.92 |
| GE 251 | | | | | | | | | | | 94.64 |
| HIST 200 | | | | | | | | 100 | | | |
| HUM 111 | | | | | | | | | 100 | | |
| HUM 112 | | | | | | | | | 100 | | |
| MATH 101 | | 66.67 | 66.67 | | | | | | 66.67 | | |
| MATH 102 | | 58.06 | 58.06 | | | | | | 58.06 | | |
| MATH 225 | | 37.5 | | | | | | 37.5 | | | |
| MBG 110 | | | | | | | | 100 | | 100 | |
| PHYS 101 | | 83.33 | 83.33 | | | 83.33 | | 83.33 | 83.33 | | |
| PHYS 102 | | 65.38 | 65.38 | | | 65.38 | | 65.38 | 65.38 | | |
| TURK 101 | | | | | | | | 100 | 100 | | |
| TURK 102 | | | | | | | | 100 | 100 | | |

Tablo.4.3.2.2. 2023-2024 Akademik Yılı Bahar Dönemi Kimya Lisans Programı Program Çıktıları Performans Oranları Tablosu / *Table.4.3.2.2.* 2023-2024 Academic Year Spring Semester Chemistry Undergraduate Program - Program Outcomes Performance Rates Table

5. DEĞERLENDİRME / EVALUATION

5.1. PROGRAM ÇIKTILARI ÖLÇÜM SONUÇLARININ DEĞERLENDİRİLMESİ / EVALUATION OF PROGRAM OUTCOMES MEASUREMENT RESULTS

In fall semester, CHEM 231 (for “a” program outcome) and CHEM 450 (for only “a” and “b” program outcomes, then MATH 225 is in fall and spring semester (for “b” and “g” program outcomes) are below the desired limits. These has not been an ongoing problem within the past few years. We will continue to monitor the performance of our students.

5.2. EĞİTİM AMAÇLARININ DEĞERLENDİRİLMESİ / EVALUATION OF EDUCATIONAL OBJECTIVES

The Department of Chemistry external advisory board meeting was held online on May 21, 2024. Representing the department, department head Prof. Dr. Emrah Özensoy and department quality officer Assoc. Dr. Burak Ülgüt participated. Of the external participants, Dr. Özgür Birer (Aselsan-Department Manager Responsible for Material Development), Dr. Tuğhan Akbaşak (Akkim Kimya - R&D Group Manager), Dr. Cem Açıksarı (TÜPRAŞ - Materials Technical Leader), Dr. Yiğit Altay (Mozameat – Expert Scientist) have been ongoing members of the board and Dr. Kerem Emre Ercan (Roketsan), Mustafa Can Özcan (Petlas A.Ş. -Board Member), Dr. Burçin Temel McKenna (Romball-Global Head of Carbon Capture) and Cüneyt Karakaya (Bramble Energy - Electrolyzer Engineer) are the new members.

The topics summarized below were discussed at the meeting:

- In the industry meetings held in the 2023-2024 academic year, the mentor-mentee practice was evaluated and it was agreed to continue increasingly.
- The common positive view on the academic success of our students was again supported.
- The issue of our grade point averages being lower than other Chemistry departments has been brought to our attention. We reiterated the fact that both our University and the Department are sensitive about "grade inflation".
- The fact that we do not have anybody working in the field of Polymer Chemistry, which is one of the prominent fields of the chemical industry in our country, and that we do not have courses is considered a deficiency.
- It will be beneficial for our students to raise awareness about industrial processes (Quality systems, Project Management, Documentation, Standards Used, intellectual property rights, etc.) through seminars and different meetings.