EĞİTİMDE KALİTE GÜVENCESİ YILLIK RAPORU

QUALITY ASSURANCE IN EDUCATION ANNUAL REPORT

MÜHENDİSLİK FAKÜLTESİ

FACULTY OF ENGINEERING

BİLGİSAYAR MÜHENDİSLİĞİ LİSANS PROGRAMI (CS)

COMPUTER ENGINEERING UNDERGRADUATE PROGRAM (CS)

İÇİNDEKİLER / CONTENTS

MÜHENDİSLİK FAKÜLTESİ / *FACULTY OF ENGINEERING*

BİLGİSAYAR MÜHENDİSLİĞİ LİSANS PROGRAMI – CS / *COMPUTER ENGINEERING UNDERGRADUATE PROGRAM – CS*

1. BÖLÜM HAKKINDA / *ABOUT THE DEPARTMENT*

1.1. EĞİTİM AMAÇLARI / *EDUCATIONAL OBJECTIVES*

Bilkent Üniversitesi Bilgisayar Mühendisliği Bölümü mezunları / *Bilkent University Computer Engineering Department graduates;*

1) Teknoloji değişikliklerine uyum sağlarken güçlü teknik yeterlilik ve yeterlilik sergileyerek bilgisayar mühendisliği ve biliminde başarılı kariyerler oluşturan, / *Establish successful careers in computer engineering and science, demonstrating strong technical competence and proficiency while adapting to technology changes;*

2) Lisansüstü programlarda ileri düzeydeki çalışmaları ve araştırmaları başarıyla tamamlayarak kendi alanlarında tanınan ve etkili uzmanlar haline gelen, / *Successfully complete advanced studies and research in graduate programs to become recognized and influential experts in their fields;*

3) Lisansüstü programlarda ileri düzeydeki çalışmaları ve araştırmaları başarıyla tamamlayarak kendi alanlarında tanınan ve etkili uzmanlar haline gelen, / *Develop innovative solutions in computer engineering practice and research using creativity and analytical thinking;*

4) İşbirliği, liderlik, inisiyatif ve dürüstlük gibi güçlü sosyal beceriler sergileyen örnek profesyonellerdir. / *Are model professionals, exhibiting strong soft skills including collaboration, leadership, initiative, and integrity.*

1.1.1. DANIŞMA KURULU / *ADVISORY BOARD*

- Çağrı Kılıboz, Ürün Müdürü, Milsoft / *Çağrı Kılıboz, Product Manager, Milsoft*
- Eren Akbaba, Takım Lideri, IBM / *Eren Akbaba, Team Leader, IBM*
- Gülsüm Ece Ekşi, Kıdemli Yazılım Mühendisi, Yela Tech / *Gülsüm Ece Ekşi, Senior Software Engineer, Yela Tech*
- İpek Palamut, Kıdemli Yazılım Mühendisi, Turkcell Teknoloji / *İpek Palamut, Senior Software Engineer, Turkcell Technology*
- Kurtuluş Tirelmaz, Program Müdürü, Havelsan / *Kurtuluş Tirelmaz, Program Manager, Havelsan*
- Mehmet Zahit Ateş, Bilgi Teknolojileri Genel Müdürü, TCMB / *Mehmet Zahit Ateş, Information Technologies General Manager, TCMB*
- Nurettin Mert Aydın, Mühendislik Müdürü (Ödemeler), Udemy / *Nurettin Mert Aydın, Engineering Manager (Payments), Udemy*
- Özer Aydemir, Yönetici / Kurucu Ortak, IOTIQ GmbH / *Özer Aydemir, Manager / Co-Founder, IOTIQ GmbH*
- Tolga Soyer, Kıdemli Mühendis, ASELSAN / *Tolga Soyer, Senior Engineer, ASELSAN*
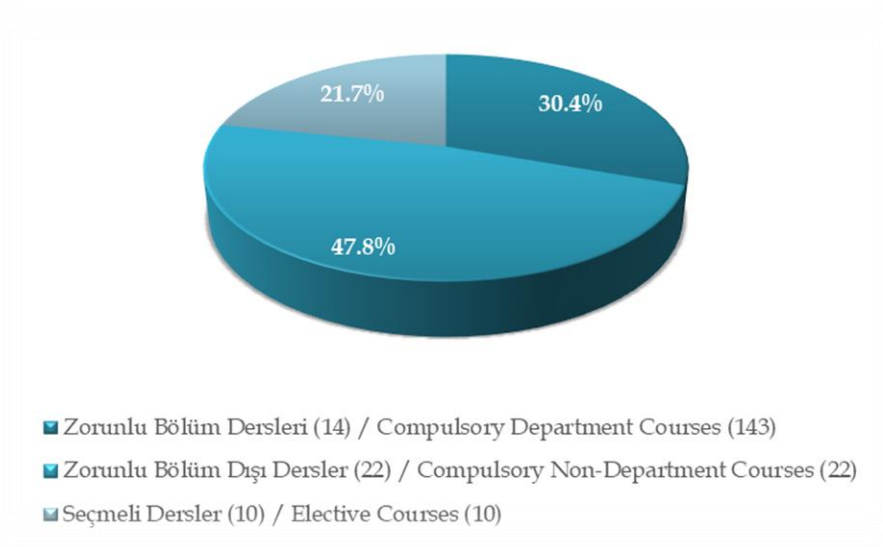
1.2. LİSANS PROGRAMI / *UNDERGRADUATE PROGRAM*

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**
CS 101	Algoritmalar ve Programlama I / *Algorithms and Programming I*	3	4	4	6,5
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
MBG 110	Modern Biyolojiye Giriş / *Introduction to Modern Biology*	3	0	3	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**
CS 102	Algoritmalar ve Programlama II / *Algorithms and Programming II*	3	4	4	6,5
ENG 102	İngilizce ve Kompozisyon II / *English and Composition II*	5	0	3	5
MATH 102	Matematik II / *Calculus II*	4	0	4	6,5
MATH 132	Sonlu ve Kombinasyonal Matematik / *Discrete and Combinatorial Mathematics*	3	0	3	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**
CS 201	Bilgisayar Biliminin Temelleri I / *Fundamental Structures of Computer Science I*	3	0	3	5
CS 223	Sayısal Devre Tasarımı / *Digital Design*	3	4	4	6,5
GE 250	Üniversite Etkinlik Programı I / *Collegiate Activities Program I*	0	0	0	1
HIST 200	Türkiye Tarihi / *History of Turkey*	3	0	4	6,5
HUM 111	Kültürler, Medeniyetler ve Düşünceler I / *Cultures Civilizations and Ideas I*	3	0	3	5
PHYS 101	Genel Fizik I / *General Physics I*	3	3	4	6,5
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**
CS 202	Bilgisayar Biliminin Temelleri II / *Fundamental Structures of Computer Science II*	3	0	3	5
CS 224	Bilgisayar Yapısı / *Computer Organization*	3	4	4	6,5
GE 251	Üniversite Etkinlik Programı II / *Collegiate Activities Program II*	0	0	1	2
HUM 112	Kültürler, Medeniyetler ve Düşünceler II / *Cultures Civilizations and Ideas II*	3	0	3	5
MATH 225	Doğrusal Cebir ve Türevsel Denklemler / *Linear Algebra and Differential Equations*	4	0	4	6,5
PHYS 102	Genel Fizik II / *General Physics II*	3	3	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**
CS 299	Yaz Stajı I / *Summer Training I*	0	0	0	7
CS 315	Programlama Dilleri / *Programming Languages*	3	0	3	5
CS 319	Nesneye Yönelik Yazılım Mühendisliği / *Object-Oriented Software Engineering*	3	0	4	6,5
ENG 401	Teknik Rapor Yazma ve Sunum / *Technical Report Writing and Presentation*	3	0	3	5
MATH 230	Mühendisler İçin Olasılık ve İstatistik / *Probability and Statistics for Engineers*	3	0	3	5
	Temel Sosyal Bilimler Seçmeli Dersi / *Social Science Core Elective*			3	
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**
CS 342	İşletim Sistemleri / *Operating Systems*	3	0	4	6,5
CS 353	Veri Tabanı Sistemleri / *Database Systems*	3	0	3	5
CS 473	Algoritmalar I / *Algorithms I*	3	0	3	5
GE 301	Bilim, Teknoloji ve Toplum / *Science Technology and Society*	2	0	2	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**
CS 399	Yaz Stajı II / *Summer Training II*	0	0	0	7
EEE 391	Temel Sinyaller ve Sistemler / *Basics of Signals and Systems*	3	0	3	5
IE 400	Mühendislik Yönetiminin İlkeleri / *Principles of Engineering Management*	3	0	3	5
	Genel Seçmeli Ders / *General Elective*			3	
	Proje Seçmeli Dersi / *Project Elective*			3	
	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**
CS 476	Otomata Teorisi ve Formal Diller / *Automata Theory and Formal Languages*	3	0	3	5
	Proje Seçmeli Dersi / *Project Elective*			3	
	Teknik Seçmeli Ders (3) / *Technical Elective (3)*			9	

1.2.2. DERSLERİN DAĞILIMI / *DISTRIBUTION COURSES*

- Zorunlu Bölüm Dersleri (14) / Compulsory Department Courses (143)
- Zorunlu Bölüm Dışı Dersler (22) / Compulsory Non-Department Courses (22)
- Seçmeli Dersler (10) / Elective Courses (10)

Grafik.1.2.2. Bilgisayar Mühendisliği Lisans Programı Müfredatındaki Derslerin Dağılımı / *Graphic.1.2.2. Distribution of Courses in the Computer Engineering Undergraduate Program Curriculum*

1.3. ÖĞRENCİLER / *STUDENTS*
1.3.1. ÖĞRENCİ SAYILARI / *NUMBER OF STUDENTS*

	Öğrenci Sayıları / *Number of Students*
Hazırlık / *Prep*	47
1. Sınıf / *1. Class*	190
2. Sınıf / *2. Class*	206
3. Sınıf / *3. Class*	234
4. Sınıf / *4. Class*	227
Toplam Öğrenci Sayısı / *Total Number of Students*	**904**

Tablo.1.3.1. 2023-2024 Akademik Yılı Bilgisayar Mühendisliği Lisans Programı Öğrenci Sayıları / *Table.1.3.1. Number of Students in Computer Engineering 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
1. Sınıf / *1. Class*	16
2. Sınıf / *2. Class*	23
3. Sınıf / *3. Class*	16
4. Sınıf / *4. Class*	11
Toplam Yabancı Öğrenci Sayısı / *Total Number of Foreign Students*	**67**

Tablo.1.3.2. 2023-2024 Akademik Yılı Bilgisayar Mühendisliği Lisans Programı Yabancı Öğrenci Sayıları / ***Table.1.3.2.*** *Number of Foreign Students in Computer Engineering 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*	10
Doçent Doktor / *Associate Professor*	2
Doktor Öğretim Üyesi / *Asisstant Professor*	7
Öğretim Görevlisi / *Instructor*	18
Araştırma Görevlisi / *Research Assistant*	1
Toplam Öğretim Elemanı Sayısı / *Total Number of Faculty Members*	**38**

Tablo.1.4.1. 2023-2024 Akademik Yılında Bilgisayar Mühendisliği Lisans Programı Kadrolu ve Yarı Zamanlı Öğretim Elemanı Sayıları / ***Table.1.4.1.*** *Number of Full-Time and Part-Time Faculty Members in the Computer Engineering 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*	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	Sinan Sonlu	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Alper Sarıkan
Doçent Doktor / Associate Professor	Tam Zamanlı / Full Time	Can Alkan	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Karani Kardaş
Doçent Doktor / Associate Professor	Tam Zamanlı / Full Time	Abdullah Ercüment Çiçek	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Mustafa Dinç
Doktor Öğretim Üyesi / Assistant Professor	Tam Zamanlı / Full Time	Hamdi Dibeklioğlu	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Serdar Bilici
Doktor Öğretim Üyesi / Assistant Professor	Tam Zamanlı / Full Time	Eray Tüzün	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Eren Akbaba
Doktor Öğretim Üyesi / Assistant Professor	Tam Zamanlı / Full Time	Shervin Rahimzadeh Arashloo	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Onur Karabulut
Doktor Öğretim Üyesi / Assistant Professor	Tam Zamanlı / Full Time	Ayşegül Dündar Boral	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Mert Bıçakçı
Doktor Öğretim Üyesi / Assistant Professor	Tam Zamanlı / Full Time	Salih Özgür Öğüz	Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Atakan Erdem
Doktor Öğretim Üyesi / Assistant Professor	Tam Zamanlı / Full Time	Sinem Sav	Öğretim Görevlisi / Instructor	Tam Zamanlı / Full Time	Aynur Dayanık
Doktor Öğretim Üyesi / Assistant Professor	Tam Zamanlı / Full Time	Anıl Koyuncu	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Halil Altay Güvenir
Öğretim Görevlisi / Instructor	Tam Zamanlı / Full Time	İpek Sözen	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Özgür Ulusoy
Öğretim Görevlisi / Instructor	Tam Zamanlı / Full Time	Sibel Uğurlubilek	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Uğur Güdükbay
Öğretim Görevlisi / Instructor	Tam Zamanlı / Full Time	Rabia Üşenmez	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Uğur Doğrusöz
Öğretim Görevlisi / Instructor	Tam Zamanlı / Full Time	Lori Rae Russell Dağ	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	İbrahim Körpeoğlu
Öğretim Görevlisi / Instructor	Tam Zamanlı / Full Time	Ayışığı Başak Sevdik Çallı	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Selim Aksoy
Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Nur Sağlam	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Cevdet Aykanat
Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Ayşe Semra Mumcu	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Özcan Öztürk
Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Haluk Altunel	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Varol Akman
Öğretim Görevlisi / Instructor	Yarı Zamanlı / Part Time	Semra Güleç	Profesör Doktor / Professor Doctor	Tam Zamanlı / Full Time	Fazlı Can

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

1.5. EĞİTİMDE KALİTE KOMİTESİ / *COMMITTEE OF QUALITY IN EDUCATION*

- ❖ Özgür Ulusoy
- ❖ Abdullah Ercüment Çiçek

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

			COMPETENCIES			
LEVEL OF THEQF	**KNOWLEDGE SKILLS -Theoretical -Factual**	**SKILLS -Cognitive -Practical**	**Ability to Work Independently and Take Responsibility**	**Learning Competence**	**Communication and Social Competence**	**Field-Specific Competence**
6th Level Bachelor's EQF-LLL: 6th Level QF-EHEA: 1st Cycle	K1. Have sufficient background in mathematics, sciences and their own field of study.	S1. Make use of theoretical and practical knowledge on mathematics, sciences and their own field concurrently for engineering solutions. S2. Identify, define, formulate and solve engineering problems; select and apply analytical methods and modeling techniques appropriate for this purpose. S3. Analyze a system, a system component or a process; make a design in consideration of realistic constraints in order to meet the needs expected; and apply modern design methods. S4. Select and use modern techniques and devices required for engineering applications. S5. Design and conduct experiments, collect data,	W1. Assume active responsibility in individual work or multi-disciplinary team work. W2. Accesses information and makes source research for this purpose, uses databases and other information sources.	L1. Know how to access information and do literature survey; and make use of databases and other information resources. L2. Be aware of the need for lifelong learning; keep up with the developments in science and technology and renew themselves continuously. L3. Make use of theoretical and practical knowledge on mathematics, sciences and their own field concurrently for engineering solutions. L4. Identify, define, formulate and solve engineering problems; select and apply analytical methods and modeling techniques appropriate for this purpose. L5. Analyze a system, a system component or a process; make a design in consideration of realistic constraints in order to meet	C1. Uses information and communication technologies together with computer software required by the field at least Advanced Level of European Computer Driving License. C2. Communicate in oral and written form in a foreign language at minimum B1 level, as defined by the European Language Portfolio. C3. Communicates using technical drawing. C4. Accesses information and makes source research for this purpose, uses databases and other information sources. C5. Becomes aware of the universal and social effects of engineering solutions and applications; become aware of entrepreneurship and innovation and have	F1. Have sense of professional and ethical responsibility. F2. Have consciousness about project management, workplace practices, workers' health, environmental risk evaluation, environmental and work safety; and have awareness about legal consequences of engineering applications. F3. Becomes aware of the universal and social effects of engineering solutions and applications; become aware of entrepreneurship and innovation and have knowledge about the problems of the age.

Basic Field Qualifications for Engineering (Academic - Weighted) - 6th Level - Bachelor's

		analyze and interpret results.		the needs expected; and apply modern design methods. L6. Select and use modern techniques and devices required for engineering applications. L7. Assume active responsibility in individual work or multi-disciplinary team work.	knowledge about the problems of the age.	

3. PROGRAM ÇIKTILARI / *PROGRAM OUTCOMES*

3.1. PROGRAM ÇIKTILARININ LİSTESİ / *LIST OF PROGRAM OUTCOMES*

a. Mühendislik, fen bilimleri ve matematik ilkelerini uygulayarak karmaşık mühendislik problemlerini tanımlama, formüle etme ve çözme becerisine sahiptir. / *An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.*

b. Kamu sağlığı, güvenliği ve refahının yanı sıra küresel, kültürel, sosyal, çevresel ve ekonomik faktörleri de dikkate alarak belirlenen ihtiyaçları karşılayacak çözümler üretmek için mühendislik tasarımını uygulama becerisine sahiptir. / *An ability to identify engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental, and economic factors.*

c. Çeşitli kitlelerle etkili bir şekilde iletişim kurabilme becerisine sahiptir. / *An ability to communicate effectively with a range of audiences.*

d. Mühendislik pozisyonlarında etik ve profesyonel sorumlulukları tanıma ve mühendislik çözümlerinin küresel, ekonomik, çevresel ve toplumsal bağlamlardaki etkisini dikkate alması gereken bilinçli kararlar verme becerisine sahiptir. / *An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.*

e. Tüm üyeleri ile birlikte, liderlik sağlayan, işbirlikçi ve kapsayıcı bir ortam yaratan, hedefler belirleyen, görevleri planlayan ve hedeflere ulaşan bir ekipte etkili bir şekilde çalışabilme becerisine sahiptir. / *An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.*

f. Uygun deneyler geliştirme ve yürütme, verileri analiz etme ve yorumlama ve tüm bunlardan sonuç çıkarmak için mühendislik yargısını kullanma becerisine sahiptir. / *An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.*

g. Uygun öğrenme stratejilerini kullanarak gerektiğinde yeni bilgi edinme ve uygulama becerisine sahiptir. / *An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.*

h. 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)**
K1	✔							
S1	✔							
S2	✔							
S3	✔	✔						
S4	✔							
S5						✔		
W1					✔			✔
W2							✔	
L1							✔	
L2							✔	
L3	✔							
L4	✔							
L5	✔	✔						
L6	✔							
L7					✔			✔
C1	✔							
C2			✔					
C3			✔					
C4							✔	
C5				✔				
F1				✔				
F2				✔				
F3		✔		✔				

Tablo.3.2. Ulusal Yeterlilikler ile Bilgisayar Mühendisliği Lisans Programı Program Çıktıları Bağlantı Tablosu / ***Table.3.2.*** *National Qualifications and Computer Engineering Undergraduate Program Program Outcomes Link Table*

4. DERSLER / *COURSES*

4.1. PROGRAM ÇIKTILARI – DERSLER MATRİSİ / *PROGRAM OUTCOMES - COURSES TABLE*

Dersler / *Courses*	a	b	c	d	e	f	g	h
CS 101				✔		✔		
CS 102	✔	✔				✔		
CS 201	✔					✔		
CS 202	✔					✔		
CS 223		✔						
CS 224						✔		
CS 299	✔		✔	✔			✔	
CS 315		✔			✔	✔		
CS 319	✔	✔	✔		✔			
CS 342					✔			
CS 353	✔	✔						
CS 399	✔		✔	✔			✔	
CS 473	✔	✔						
CS 476	✔							
EEE 391	✔						✔	
ENG 101			✔				✔	
ENG 102			✔				✔	
ENG 401			✔				✔	

Dersler / *Courses*	a	b	c	d	e	f	g	h
GE 100			✔	✔			✔	✔
GE 250			✔				✔	✔
GE 251			✔				✔	✔
GE 301				✔	✔		✔	
HIST 200			✔		✔		✔	
HUM 111			✔				✔	
HUM 112			✔				✔	
IE 400	✔				✔			
MATH 101	✔		✔		✔			
MATH 102	✔		✔		✔			
MATH 132	✔							
MATH 225	✔							
MATH 230	✔							
MBG 110	✔							
PHYS 101	✔	✔			✔		✔	
PHYS 102	✔	✔			✔		✔	
TURK 101			✔				✔	
TURK 102			✔				✔	

Tablo.4.1. Bilgisayar Mühendisliği Lisans Programı - Program Çıktıları ve Dersler Tablosu / *Table.4.1.* Computer Engineering Undergraduate Program - Program

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

4.2.1. PERFORMANS ÖLÇÜMLERİNDE KULLANILAN DEĞERLENDİRME METOTLARI / / *EVAULATION 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	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	d	100	100	M1	40	75
CS 101	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	f	100	100	M1	40	75

Course Code	Program Outputs	Midterm:Essay/ written	Final:Essay/ written	Lab work	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	30	30	10	30	100	M1	40	75
	Program Outputs	Midterm:Essay/ written	Final:Essay/ written	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
CS 102	b	33	34	33	100	M1	40	75	
	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)			
	f	100	100	M1	40	75			

Course Code	Program Outputs	Homework	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	33	34	33	100	M1	50	75
CS 201	Program Outputs	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)		
	f	100	100	M1	50	75		

Course Code	Program Outputs	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 202	a	50	50	100	M1	50	75

Course Code	Program Outputs	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	f	100	100	M1	50	75

Course Code	Program Outputs	Lab work	Midterm:Open-Book	Final:Open-book	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 223	b	15	35	35	15	100	M1	50	75

Course Code	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 224	f	100	100	M1	50	75

Course Code	Program Outputs	Reports about an internship	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 299	a	100	100	M1	50	75
	c	100	100	M1	50	75
	d	100	100	M1	50	75
	g	100	100	M1	50	75

Course Code	Program Outputs	Project	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 315	b	50	50	100	M1	50	75
	e	100 (Project)	100	M1	50	75
	g	100 (Homework)	100	M1	50	75

Course Code	Program Outputs	Midterm	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	100	100	M1	50	75
	Program Outputs	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	b	100	100	M1	50	75
CS 319	Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	100	100	M1	50	75
	Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	e	100	100	M1	50	75

Course Code	Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 342	f	100	100	M1	50	75

Course Code	Program Outputs	Midterm:Essay/written	Final:Essay/written	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	40	40	10	10	100	M1	50	75
CS 353	Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)			
	b	100	100	M1	50	75			

Course Code	Program Outputs	Reports about an internship	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	100	100	M1	50	75
	Program Outputs	Reports about an internship	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	100	100	M1	50	75
CS 399	Program Outputs	Reports about an internship	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	d	100	100	M1	50	75
	Program Outputs	Reports about an internship	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	100	100	M1	50	75

Course Code	Program Outputs	Homework	Midterm:Essay/written	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 473	a	40	25	35	100	M1	40	75

Course Code	Program Outputs	Midterm:Essay/written	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	b	40	60	100	M1	40	75

Course Code	Program Outputs	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 476	a	100	100	M1	40	75

Course Code	Program Outputs	Midterm:Essay/written	Final:Essay/written	Mini Project	Mini Project	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
EEE 391	a	35	40	7,5	7,5	5	5	100	M1	40	80
	g	35	40	7,5	7,5	5	5	100	M1	40	80

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	c	20	25	8	7	10	5	25	100	M1	70	75
	g	20	25	8	7	10	5	25	100	M1	70	75

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	c	5	20	20	10	30	15	100	M1	70	70
	g	5	20	20	10	30	15	100	M1	70	70

Course Code	Program Outputs	Oral presentation	Oral presentation	Written Project Proposal	Written Final Report	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
ENG 401	c	15	30	20	35	100	M1	70	80
	Program Outputs	Oral presentation	Oral presentation	Written Project Proposal	Written Final Report	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	15	30	20	35	100	M1	70	80

Course Code	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
GE 100	c	100	100	M1	12	80
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	d	100	100	M1	12	80
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	100	100	M1	12	80
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	h	100	100	M1	12	80

Course Code	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
GE 251	c	100	100	M1	70	70
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	100	100	M1	70	70
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	h	100	100	M1	70	70

Course Code	Program Outputs	Final	Midterm	Project	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
GE 301	d	25	30	30	15	100	M1	45	60

Course Code	Program Outputs	Final	Midterm	Project	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
GE 301	e	25	30	30	15	100	M1	45	60
	Program Outputs	Final	Midterm	Project	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	25	30	30	15	100	M1	45	60

Course Code	Program Outputs	Oral presentation	Research essay	Performance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
HIST 200	c	10	60	30	100	M1	70	75
	Program Outputs	Oral presentation	Research essay	Performance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	e	10	60	30	100	M1	70	75
	Program Outputs	Oral presentation	Research essay	Performance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	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	c	30	30	10	30	100	M1	60	75
	Program Outputs	Quizzes	Course Project	In-class participation	Final Examination	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	30	30	10	30	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	c	30	10	30	30	100	M1	60	75
	Program Outputs	Quizzes	In-class participation	Final:Essay/ written	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	30	10	30	30	100	M1	60	75

Course Code	Program Outputs	Midterm:Essay/ written	Quiz	Quiz	Quiz	Quiz	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
IE 400	a	25	10	10	10	10	35	100	M1	30	75
	Program Outputs	Midterm:Essay/ written	Quiz	Quiz	Quiz	Quiz	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	e	25	10	10	10	10	35	100	M1	30	75

Course Code	Program Outputs	Midterm	Midterm	Final	Quiz	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	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 (%)
MATH 101	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 (%)
	e	25	25	30	10	10	100	M1	40	50

Course Code	Program Outputs	Midterm:Essay/ written	Midterm	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	30	30	40	100	M1	40	50
	Program Outputs	Midterm:Essay/ written	Midterm	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
MATH 102	c	30	30	40	100	M1	40	50
	Program Outputs	Midterm:Essay/ written	Midterm	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	e	30	30	40	100	M1	40	50

Course Code	Program Outputs	Homework	Homework	Homework	Homework	Homework	Midterm:Essay/ written	Midterm:Essay/ written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
		2	2	2	2	2	30	30	30	100	M1	40
MATH 132	a	Qualification Threshold (%)										
		50										

Course Code	Program Outputs	Midterm:Essay/ written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
MATH 225	a	50	50	100	M1	40	50

Course Code	Program Outputs	Midterm:Essay/ written	Homework	Homework	Homework	Homework	Homework	Homework	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
		40	2,5	2,5	2,5	2,5	2,5	2,5	45	100	M1	30
MATH 230	a	Qualification Threshold (%)										
		75										

Course Code	Program Outputs	Quiz	Quiz	Quiz	Midterm	Midterm	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
MBG 110	a	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	a	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 (%)
	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 (%)
	e	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 (%)
	g	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	a	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 (%)
	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 (%)
	e	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 (%)
	g	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	c	70	30	100	M1	70	60
	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	70	30	100	M1	70	60

Course Code	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	70	30	100	M1	70	60
TURK 102	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	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	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 101	d	100	100	M1	40	75
	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	f	100	100	M1	40	75

Course Code	Program Outputs	Midterm:Essay/written	Final:Essay/written	Lab work	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 102	a	30	30	10	30	100	M1	40	75
	Program Outputs	Midterm:Essay/written	Final:Essay/written	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	b	33	34	33	100	M1	40	75	
	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)			
	f	100	100	M1	40	75			

Course Code	Program Outputs	Homework	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 201	a	33	34	33	100	M1	50	75
	Program Outputs	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)		
	f	100	100	M1	50	75		

Course Code	Program Outputs	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 202	a	50	50	100	M1	50	75
	Program Outputs	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	f	100	100	M1	50	75	

Course Code	Program Outputs	Lab work	Midterm:Open-Book	Final:Open-book	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 223	b	15	35	35	15	100	M1	50	75

Course Code	Program Outputs	Lab work	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 224	f	100	100	M1	50	75

Course Code	Program Outputs	Project	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	b	50	50	100	M1	50	75
Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)		
CS 315 — e	100	100	M1	50	75		
Program Outputs	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)		
g	100	100	M1	50	75		

Course Code	Program Outputs	Midterm	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	100	100	M1	50	75
Program Outputs	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
b	100	100	M1	50	75	
Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
CS 319 — c	100	100	M1	50	75	
Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
e	100	100	M1	50	75	

Course Code	Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 342	f	100	100	M1	50	75

Course Code	Program Outputs	Midterm:Essay/written	Final:Essay/written	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	40	40	20	100	M1	50	75
CS 353	Program Outputs	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)		
	b	100	100	M1	50	75		

Course Code	Program Outputs	Homework	Midterm:Essay/written	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	40	25	35	100	M1	40	75
CS 473	Program Outputs	Midterm:Essay/written	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	b	40	60	100	M1	40	75	

Course Code	Program Outputs	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
CS 476	a	100	100	M1	40	75

Course Code	Program Outputs	Midterm:Essay/written	Final:Essay/written	Mini Project	Mini Project	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	35	40	7,5	7,5	5	5	100	M1	40	80
EEE 391	Program Outputs	Midterm:Essay/written	Final:Essay/written	Mini Project	Mini Project	Homework	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	35	40	7,5	7,5	5	5	100	M1	40	80

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 (%)
	c	20	25	8	7	10	5	25	100	M1	70	75
ENG 101	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 (%)
	g	20	25	8	7	10	5	25	100	M1	70	75

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 (%)
	c	5	20	20	10	30	15	100	M1	70	70
ENG 102	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 (%)
	g	5	20	20	10	30	15	100	M1	70	70

Course Code	Program Outputs	Presentations	Written Project Proposal	Written Final Report	Interviews	Interviews	Presentations	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	c	15	20	35	5	5	20	100	M1	70	80	
ENG 401	Program Outputs	Presentations	Written Project Proposal	Written Final Report	Interviews	Interviews	Presentations	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	g	15	20	35	5	5	20	100	M1	70	80	

Course Code	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	100	100	M1	12	80
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	d	100	100	M1	12	80
GE 100	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	100	100	M1	12	80
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	h	100	100	M1	12	80

Course Code	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	100	100	M1	70	70
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
GE 251	g	100	100	M1	70	70
	Program Outputs	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	h	100	100	M1	70	70

Course Code	Program Outputs	Final	Midterm	Project	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	d	25	30	30	15	100	M1	45	60	
GE 301	Program Outputs	Final	Midterm	Project	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	e	25	30	30	15	100	M1	45	60	

Course Code	Program Outputs	Final	Midterm	Project	In-class participation	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
GE 301	g	25	30	30	15	100	M1	45	60

Course Code	Program Outputs	Oral presentation	Research essay	Performance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	10	60	30	100	M1	70	75
	Program Outputs	Oral presentation	Research essay	Performance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
HIST 200	e	10	60	30	100	M1	70	75
	Program Outputs	Oral presentation	Research essay	Performance	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	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 (%)
	c	30	30	10	30	100	M1	60	75
HUM 111	Program Outputs	Quizzes	Course Project	In-class participation	Final Examination	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	30	30	10	30	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 (%)
	c	30	10	30	30	100	M1	60	75
HUM 112	Program Outputs	Quizzes	In-class participation	Final:Essay/written	Project	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	30	10	30	30	100	M1	60	75

Course Code	Program Outputs	Midterm:Essay/written	Quiz	Quiz	Quiz	Quiz	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	a	25	10	10	10	10	35	100	M1	30	75
IE 400	Program Outputs	Midterm:Essay/written	Quiz	Quiz	Quiz	Quiz	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	e	25	10	10	10	10	35	100	M1	30	75

Course Code	Program Outputs	Midterm	Midterm	Final	Quiz	Homework	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
	a	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 (%)	
MATH 101	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 (%)	
	e	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 (%)
	a	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 (%)
MATH 102	c	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 (%)
	e	30	30	40	100	M1	40	50

Course Code	Program Outputs	Homework	Homework	Homework	Homework	Homework	Midterm:Essay/written	Midterm:Essay/written	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade
		2	2	2	2	2	30	30	30	100	M1	40
MATH 132	a	Qualification Threshold (%)										
		50										

Course Code	Program Outputs	Midterm:Essay/ written	Final:Essay/ written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
MATH 225	a	50	50	100	M1	40	50

Course Code	Program Outputs	Midterm:Essay/ written	Homework	Homework	Homework	Homework	Final:Essay/written	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
MATH 230	a	40	3,75	3,75	3,75	3,75	45	100	M1	30	75	

Course Code	Program Outputs	Quiz	Quiz	Quiz	Midterm	Midterm	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)	
MBG 110	a	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	a	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 (%)	
	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 (%)	
	e	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 (%)	
	g	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	a	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 (%)	
	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 (%)	
	e	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 (%)	
	g	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	c	70	30	100	M1	70	60
	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	70	30	100	M1	70	60

Course Code	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	c	70	30	100	M1	70	60
TURK 102	Program Outputs	Blog	Final	Total Contribution	Qualification Calculation Method	(Average) Qualification Grade	Qualification Threshold (%)
	g	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 (%) / *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*
CS 101 - Algoritmalar ve Programlama I / *CS 101 - Algorithms and Programming I*													
d	M1	40	75	153	125	93.66	93.95	153	125	100.00	100.00	Yeterli √ / *Sufficient √*	100.00
f	M1	40	75	153	125	95.43	96.05	153	125	100.00	100.00	Yeterli √ / *Sufficient √*	100.00
CS 102 - Algoritmalar ve Programlama II / *CS 102 - Algorithms and Programming II*													
a	M1	40	75	67	65	79.19	79.50	67	65	100.00	100.00	Yeterli √ / *Sufficient √*	100.00
b	M1	40	75	67	65	77.39	77.71	67	65	100.00	100.00	Yeterli √ / *Sufficient √*	100.00
f	M1	40	75	67	65	94.78	94.97	67	65	100.00	100.00	Yeterli √ / *Sufficient √*	100.00
CS 201 - Bilgisayar Biliminin Temelleri I / *CS 201 - Fundamental Structures of Computer Science I*													
a	M1	50	75	131	125	73.77	74.21	107	103	81.68	82.40	Yeterli √ / *Sufficient √*	82.40
f	M1	50	75	131	125	78.56	78.84	116	112	88.55	89.60	Yeterli √ / *Sufficient √*	89.60
CS 202 - Bilgisayar Biliminin Temelleri II / *CS 202 - Fundamental Structures of Computer Science II*													
a	M1	50	75	52	50	68.82	69.59	42	41	80.77	82.00	Yeterli √ / *Sufficient √*	82.00
f	M1	50	75	52	50	84.56	84.34	51	49	98.08	98.00	Yeterli √ / *Sufficient √*	98.00
CS 223 - Sayısal Devre Tasarımı / *CS 223 - Digital Design*													
b	M1	50	75	130	129	74.98	74.94	122	121	93.85	93.80	Yeterli √ / *Sufficient √*	93.80
CS 224 - Bilgisayar Yapısı / *CS 224 - Computer Organization*													
f	M1	50	75	71	71	78.65	78.65	66	66	92.96	92.96	Yeterli √ / *Sufficient √*	92.96
CS 299 - Yaz Stajı I / *CS 299 - Summer Training I*													
a	M1	50	75	201	201	80.75	80.75	192	192	95.52	95.52	Yeterli √ / *Sufficient √*	95.52
c	M1	50	75	201	201	80.75	80.75	192	192	95.52	95.52	Yeterli √ / *Sufficient √*	95.52
CS 299 - Yaz Stajı I / *CS 299 - Summer Training I*													
d	M1	50	75	201	201	80.75	80.75	192	192	95.52	95.52	Yeterli √ / *Sufficient √*	95.52
g	M1	50	75	201	201	80.75	80.75	192	192	95.52	95.52	Yeterli √ / *Sufficient √*	95.52
CS 315 - Programlama Dilleri / *CS 315 - Programming Languages*													
b	M1	50	75	152	152	81.67	81.67	148	148	97.37	97.37	Yeterli √ / *Sufficient √*	97.37
e	M1	50	75	152	152	79.97	79.97	142	142	93.42	93.42	Yeterli √ / *Sufficient √*	93.42
g	M1	50	75	152	152	89.67	89.67	148	148	97.37	97.37	Yeterli √ / *Sufficient √*	97.37
CS 319 - Nesneye Yönelik Yazılım Mühendisliği / *CS 319 - Object-Oriented Software Engineering*													
a	M1	50	75	161	159	58.04	58.25	122	121	75.78	76.10	Yeterli √ / *Sufficient √*	76.10
b	M1	50	75	161	159	64.43	64.62	144	143	89.44	89.94	Yeterli √ / *Sufficient √*	89.94
c	M1	50	75	161	159	82.48	82.52	151	149	93.79	93.71	Yeterli √ / *Sufficient √*	93.71
e	M1	50	75	161	159	82.48	82.52	151	149	93.79	93.71	Yeterli √ / *Sufficient √*	93.71

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
CS 342 - İşletim Sistemleri / CS 342 - Operating Systems													
f	M1	50	75	54	50	71.91	71.96	48	44	88.89	88.00	Yeterli √ / Sufficient √	88.00
CS 353 - Veri Tabanı Sistemleri / CS 353 - Database Systems													
a	M1	50	75	69	64	57.64	58.75	39	39	56.52	60.94	İyileştirmeye Açık! / Insufficient!	60.94
b	M1	50	75	69	64	81.52	83.34	68	63	98.55	98.44	Yeterli √ / Sufficient √	98.44
CS 399 - Yaz Stajı II / CS 399 - Summer Training II													
a	M1	50	75	159	159	78.99	78.99	148	148	93.08	93.08	Yeterli √ / Sufficient √	93.08
c	M1	50	75	159	159	78.99	78.99	148	148	93.08	93.08	Yeterli √ / Sufficient √	93.08
d	M1	50	75	159	159	78.99	78.99	148	148	93.08	93.08	Yeterli √ / Sufficient √	93.08
g	M1	50	75	159	159	78.99	78.99	148	148	93.08	93.08	Yeterli √ / Sufficient √	93.08
CS 473 - Algoritmalar I / CS 473 - Algorithms I													
a	M1	40	75	132	132	44.68	44.68	76	76	57.58	57.58	İyileştirmeye Açık! / Insufficient!	57.58
b	M1	40	75	132	132	40.03	40.03	62	62	46.97	46.97	İyileştirmeye Açık! / Insufficient!	46.97
CS 476 - Otomata Teorisi ve Formal Diller / CS 476 - Automata Theory and Formal Languages													
a	M1	40	75	60	60	39.35	39.35	23	23	38.33	38.33	İyileştirmeye Açık! / Insufficient!	38.33
EEE 391 - Temel Sinyaller ve Sistemler / EEE 391 - Basics of Signals and Systems													
a	M1	40	80	135	132	60.77	61.00	119	118	88.15	89.39	Yeterli √ / Sufficient √	89.39
g	M1	40	80	135	132	60.77	61.00	119	118	88.15	89.39	Yeterli √ / Sufficient √	89.39
ENG 101 - İngilizce ve Kompozisyon I / ENG 101 - English and Composition I													
c	M1	70	75	1698	132	82.20	86.72	1560	131	91.87	99.24	Yeterli √ / Sufficient √	99.24
g	M1	70	75	1698	132	82.20	86.72	1560	131	91.87	99.24	Yeterli √ / Sufficient √	99.24
ENG 102 - İngilizce ve Kompozisyon II / ENG 102 - English and Composition II													
c	M1	70	70	543	54	85.44	90.06	526	53	96.87	98.15	Yeterli √ / Sufficient √	98.15
g	M1	70	70	543	54	85.44	90.06	526	53	96.87	98.15	Yeterli √ / Sufficient √	98.15
ENG 401 - Teknik Rapor Yazma ve Sunum / ENG 401 - Technical Report Writing and Presentation													
c	M1	70	80	266	120	88.72	88.88	266	120	100.00	100.00	Yeterli √ / Sufficient √	100.00
g	M1	70	80	266	120	88.72	88.88	266	120	100.00	100.00	Yeterli √ / Sufficient √	100.00
GE 100 - Üniversite Hayatına Giriş / GE 100 - Orientation													
c	M1	12	80	1681	130	97.15	98.85	1681	130	100.00	100.00	Yeterli √ / Sufficient √	100.00
d	M1	12	80	1681	130	97.15	98.85	1681	130	100.00	100.00	Yeterli √ / Sufficient √	100.00
g	M1	12	80	1681	130	97.15	98.85	1681	130	100.00	100.00	Yeterli √ / Sufficient √	100.00
h	M1	12	80	1681	130	97.15	98.85	1681	130	100.00	100.00	Yeterli √ / Sufficient √	100.00

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
GE 251 - Üniversite Etkinlik Programı II / GE 251 - Collegiate Activities Program II
c	M1	70	70	838	83	93.01	93.31	776	76	92.60	91.57	Yeterli √ / Sufficient √	91.57
g	M1	70	70	838	83	93.01	93.31	776	76	92.60	91.57	Yeterli √ / Sufficient √	91.57
h	M1	70	70	838	83	93.01	93.31	776	76	92.60	91.57	Yeterli √ / Sufficient √	91.57
GE 301 - Bilim, Teknoloji ve Toplum / GE 301 - Science Technology and Society
d	M1	45	60	366	78	82.99	84.02	366	78	100.00	100.00	Yeterli √ / Sufficient √	100.00
e	M1	45	60	366	78	82.99	84.02	366	78	100.00	100.00	Yeterli √ / Sufficient √	100.00
g	M1	45	60	366	78	82.99	84.02	366	78	100.00	100.00	Yeterli √ / Sufficient √	100.00
HIST 200 - Türkiye Tarihi / HIST 200 - History of Turkey
c	M1	70	75	1055	103	93.35	96.26	1044	103	98.96	100.00	Yeterli √ / Sufficient √	100.00
e	M1	70	75	1055	103	93.35	96.26	1044	103	98.96	100.00	Yeterli √ / Sufficient √	100.00
g	M1	70	75	1055	103	93.35	96.26	1044	103	98.96	100.00	Yeterli √ / Sufficient √	100.00
HUM 111 - Kültürler, Medeniyetler ve Düşünceler I / HUM 111 - Cultures Civilizations and Ideas I
c	M1	60	75	1110	142	83.62	86.62	1099	140	99.01	98.59	Yeterli √ / Sufficient √	98.59
g	M1	60	75	1110	142	83.62	86.62	1099	140	99.01	98.59	Yeterli √ / Sufficient √	98.59
HUM 112 - Kültürler, Medeniyetler ve Düşünceler II / HUM 112 - Cultures Civilizations and Ideas II
c	M1	60	75	238	42	83.67	85.85	237	42	99.58	100.00	Yeterli √ / Sufficient √	100.00
g	M1	60	75	238	42	83.67	85.85	237	42	99.58	100.00	Yeterli √ / Sufficient √	100.00
IE 400 - Mühendislik Yönetiminin İlkeleri / IE 400 - Principles of Engineering Management
a	M1	30	75	135	122	63.22	63.61	135	122	100.00	100.00	Yeterli √ / Sufficient √	100.00
e	M1	30	75	135	122	63.22	63.61	135	122	100.00	100.00	Yeterli √ / Sufficient √	100.00
MATH 101 - Matematik I / MATH 101 - Calculus I
a	M1	40	50	741	137	65.46	74.06	686	135	92.58	98.54	Yeterli √ / Sufficient √	98.54
c	M1	40	50	741	137	65.46	74.06	686	135	92.58	98.54	Yeterli √ / Sufficient √	98.54
e	M1	40	50	741	137	65.46	74.06	686	135	92.58	98.54	Yeterli √ / Sufficient √	98.54
MATH 102 - Matematik II / MATH 102 - Calculus II
a	M1	40	50	215	60	54.07	63.09	156	50	72.56	83.33	Yeterli √ / Sufficient √	83.33
c	M1	40	50	215	60	54.07	63.09	156	50	72.56	83.33	Yeterli √ / Sufficient √	83.33
e	M1	40	50	215	60	54.07	63.09	156	50	72.56	83.33	Yeterli √ / Sufficient √	83.33
MATH 132 - Sonlu ve Kombinasyonal Matematik / MATH 132 - Discrete and Combinatorial Mathematics
a	M1	40	50	178	67	57.34	63.68	150	59	84.27	88.06	Yeterli √ / Sufficient √	88.06
MATH 225 - Doğrusal Cebir ve Türevsel Denklemler / MATH 225 - Linear Algebra and Differential Equations
a	M1	40	50	206	71	45.79	48.51	118	42	57.28	59.15	Yeterli √ / Sufficient √	59.15

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
MATH 230 - Mühendisler İçin Olasılık ve İstatistik / MATH 230 - Probability and Statistics for Engineers													
a	M1	30	75	246	156	58.33	59.08	237	149	96.34	95.51	Yeterli √ / Sufficient √	95.51
MBG 110 - Modern Biyolojiye Giriş / MBG 110 - Introduction to Modern Biology													
a	M1	50	50	450	132	64.65	75.25	345	127	76.67	96.21	Yeterli √ / Sufficient √	96.21
PHYS 101 - Genel Fizik I / PHYS 101 - General Physics I													
a	M1	50	50	663	136	68.54	74.37	598	130	90.20	95.59	Yeterli √ / Sufficient √	95.59
b	M1	50	50	663	136	68.54	74.37	598	130	90.20	95.59	Yeterli √ / Sufficient √	95.59
e	M1	50	50	663	136	68.54	74.37	598	130	90.20	95.59	Yeterli √ / Sufficient √	95.59
g	M1	50	50	663	136	68.54	74.37	598	130	90.20	95.59	Yeterli √ / Sufficient √	95.59
PHYS 102 - Genel Fizik II / PHYS 102 - General Physics II													
a	M1	50	50	135	19	63.16	65.86	107	17	79.26	89.47	Yeterli √ / Sufficient √	89.47
b	M1	50	50	135	19	63.16	65.86	107	17	79.26	89.47	Yeterli √ / Sufficient √	89.47
e	M1	50	50	135	19	63.16	65.86	107	17	79.26	89.47	Yeterli √ / Sufficient √	89.47
g	M1	50	50	135	19	63.16	65.86	107	17	79.26	89.47	Yeterli √ / Sufficient √	89.47
TURK 101 - Türkçe I / TURK 101 - Turkish I													
c	M1	70	60	1516	114	87.68	91.09	1493	113	98.48	99.12	Yeterli √ / Sufficient √	99.12
g	M1	70	60	1516	114	87.68	91.09	1493	113	98.48	99.12	Yeterli √ / Sufficient √	99.12
TURK 102 - Türkçe II / TURK 102 - Turkish II													
c	M1	70	60	492	53	90.84	93.73	487	53	98.98	100.00	Yeterli √ / Sufficient √	100.00
g	M1	70	60	492	53	90.84	93.73	487	53	98.98	100.00	Yeterli √ / Sufficient √	100.00

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 (%) / *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*
CS 101 - Algoritmalar ve Programlama I / CS 101 - Algorithms and Programming I													
d	M1	40	75	74	72	85.34	85.21	74	72	100	100	Yeterli √ / *Sufficient √*	100
f	M1	40	75	74	72	95.89	96.19	74	72	100	100	Yeterli √ / *Sufficient √*	100
CS 102 - Algoritmalar ve Programlama II / CS 102 - Algorithms and Programming II													
a	M1	40	75	142	125	76.16	76.47	142	125	100	100	Yeterli √ / *Sufficient √*	100
b	M1	40	75	142	125	73.64	73.91	142	125	100	100	Yeterli √ / *Sufficient √*	100
f	M1	40	75	142	125	97.43	98	142	125	100	100	Yeterli √ / *Sufficient √*	100
CS 201 - Bilgisayar Biliminin Temelleri / CS 201 - Fundamental Structures of Computer Science I													
a	M1	50	75	76	74	74.49	74.51	66	64	86.84	86.49	Yeterli √ / *Sufficient √*	86.49
f	M1	50	75	76	74	66.2	66.22	59	57	77.63	77.03	Yeterli √ / *Sufficient √*	77.03
CS 202 - Bilgisayar Biliminin Temelleri II / CS 202 - Fundamental Structures of Computer Science II													
a	M1	50	75	98	98	76.84	76.84	89	89	90.82	90.82	Yeterli √ / *Sufficient √*	90.82
f	M1	50	75	98	98	92.98	92.98	96	96	97.96	97.96	Yeterli √ / *Sufficient √*	97.96
CS 223 - Sayısal Devre Tasarımı / CS 223 - Digital Design													
b	M1	50	75	63	63	71.62	71.62	58	58	92.06	92.06	Yeterli √ / *Sufficient √*	92.06
CS 224 - Bilgisayar Yapısı / CS 224 - Computer Organization													
f	M1	50	75	117	117	86.84	86.84	110	110	94.02	94.02	Yeterli √ / *Sufficient √*	94.02

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*
CS 315 - Programlama Dilleri / *CS 315 - Programming Languages*													
b	M1	50	75	47	47	82.8	82.8	44	44	93.62	93.62	Yeterli √ / *Sufficient √*	93.62
e	M1	50	75	47	47	80.19	80.19	44	44	93.62	93.62	Yeterli √ / *Sufficient √*	93.62
g	M1	50	75	47	47	89.23	89.23	44	44	93.62	93.62	Yeterli √ / *Sufficient √*	93.62
CS 319 - Nesneye Yönelik Yazılım Mühendisliği / *CS 319 - Object-Oriented Software Engineering*													
a	M1	50	75	46	46	66.5	66.5	43	43	93.48	93.48	Yeterli √ / *Sufficient √*	93.48
b	M1	50	75	46	46	62.41	62.41	33	33	71.74	71.74	İyileştirmeye Açık! / *Insufficient!*	71.74
c	M1	50	75	46	46	81.09	81.09	46	46	100	100	Yeterli √ / *Sufficient √*	100
e	M1	50	75	46	46	81.09	81.09	46	46	100	100	Yeterli √ / *Sufficient √*	100
CS 342 - İşletim Sistemleri / *CS 342 - Operating Systems*													
f	M1	50	75	150	149	79.32	79.35	146	145	97.33	97.32	Yeterli √ / *Sufficient √*	97.32
CS 353 - Veri Tabanı Sistemleri / *CS 353 - Database Systems*													
a	M1	50	75	125	125	67.06	67.06	109	109	87.2	87.2	Yeterli √ / *Sufficient √*	87.2
b	M1	50	75	125	125	87.02	87.02	124	124	99.2	99.2	Yeterli √ / *Sufficient √*	99.2
CS 473 - Algoritmalar I / *CS 473 - Algorithms I*													
a	M1	40	75	152	152	42.45	42.45	72	72	47.37	47.37	İyileştirmeye Açık! / *Insufficient!*	47.37
b	M1	40	75	152	152	38.75	38.75	65	65	42.76	42.76	İyileştirmeye Açık! / *Insufficient!*	42.76

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
CS 476 - Otomata Teorisi ve Formal Diller / CS 476 - Automata Theory and Formal Languages													
a	M1	40	75	119	119	54.6	54.6	86	86	72.27	72.27	İyileştirmeye Açık! / Insufficient!	72.27
EEE 391 - Temel Sinyaller ve Sistemler / EEE 391 - Basics of Signals and Systems													
a	M1	40	80	34	26	64.83	61	32	24	94.12	92.31	Yeterli √ / Sufficient √	92.31
g	M1	40	80	34	26	64.83	61	32	24	94.12	92.31	Yeterli √ / Sufficient √	92.31
ENG 101 - İngilizce ve Kompozisyon I / ENG 101 - English and Composition I													
c	M1	70	75	740	49	81.27	86.48	662	49	89.46	100	Yeterli √ / Sufficient √	100
g	M1	70	75	740	49	81.27	86.48	662	49	89.46	100	Yeterli √ / Sufficient √	100
ENG 102 - İngilizce ve Kompozisyon II / ENG 102 - English and Composition II													
c	M1	70	70	1495	142	84.92	88.89	1428	139	95.52	97.89	Yeterli √ / Sufficient √	97.89
g	M1	70	70	1495	142	84.92	88.89	1428	139	95.52	97.89	Yeterli √ / Sufficient √	97.89
ENG 401 - Teknik Rapor Yazma ve Sunum / ENG 401 - Technical Report Writing and Presentation													
c	M1	70	80	312	76	88.8	88.05	309	75	99.04	98.68	Yeterli √ / Sufficient √	98.68
g	M1	70	80	312	76	88.8	88.05	309	75	99.04	98.68	Yeterli √ / Sufficient √	98.68
GE 100 - Üniversite Hayatına Giriş / GE 100 - Orientation													
c	M1	12	80	587	48	96.22	99.06	587	48	100	100	Yeterli √ / Sufficient √	100
d	M1	12	80	587	48	96.22	99.06	587	48	100	100	Yeterli √ / Sufficient √	100
g	M1	12	80	587	48	96.22	99.06	587	48	100	100	Yeterli √ / Sufficient √	100
h	M1	12	80	587	48	96.22	99.06	587	48	100	100	Yeterli √ / Sufficient √	100

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
GE 251 - Üniversite Etkinlik Programı II / GE 251 - Collegiate Activities Program II													
c	M1	70	70	1375	120	93.49	96.08	1287	116	93.6	96.67	Yeterli √ / Sufficient √	96.67
g	M1	70	70	1375	120	93.49	96.08	1287	116	93.6	96.67	Yeterli √ / Sufficient √	96.67
h	M1	70	70	1375	120	93.49	96.08	1287	116	93.6	96.67	Yeterli √ / Sufficient √	96.67
GE 301 - Bilim, Teknoloji ve Toplum / GE 301 - Science Technology and Society													
d	M1	45	60	284	134	82.54	85.04	284	134	100	100	Yeterli √ / Sufficient √	100
e	M1	45	60	284	134	82.54	85.04	284	134	100	100	Yeterli √ / Sufficient √	100
g	M1	45	60	284	134	82.54	85.04	284	134	100	100	Yeterli √ / Sufficient √	100
HIST 200 - Türkiye Tarihi / HIST 200 - History of Turkey													
c	M1	70	75	968	59	92.06	94.69	931	58	96.18	98.31	Yeterli √ / Sufficient √	98.31
e	M1	70	75	968	59	92.06	94.69	931	58	96.18	98.31	Yeterli √ / Sufficient √	98.31
g	M1	70	75	968	59	92.06	94.69	931	58	96.18	98.31	Yeterli √ / Sufficient √	98.31
HUM 111 - Kültürler, Medeniyetler ve Düşünceler I / HUM 111 - Cultures Civilizations and Ideas I													
c	M1	60	75	465	42	80.91	86.69	457	42	98.28	100	Yeterli √ / Sufficient √	100
g	M1	60	75	465	42	80.91	86.69	457	42	98.28	100	Yeterli √ / Sufficient √	100
HUM 112 - Kültürler, Medeniyetler ve Düşünceler II / HUM 112 - Cultures Civilizations and Ideas II													
c	M1	60	75	937	140	85.62	88.58	930	140	99.25	100	Yeterli √ / Sufficient √	100
g	M1	60	75	937	140	85.62	88.58	930	140	99.25	100	Yeterli √ / Sufficient √	100
IE 400 - Mühendislik Yönetiminin İlkeleri / IE 400 - Principles of Engineering Management													
a	M1	30	75	95	66	58.23	61.64	91	63	95.79	95.45	Yeterli √ / Sufficient √	95.45
e	M1	30	75	95	66	58.23	61.64	91	63	95.79	95.45	Yeterli √ / Sufficient √	95.45

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*
MATH 102 - Matematik II / *MATH 102 - Calculus II*													
a	M1	40	50	694	148	55.51	62.65	518	122	74.64	82.43	Yeterli √ / *Sufficient √*	82.43
c	M1	40	50	694	148	55.51	62.65	518	122	74.64	82.43	Yeterli √ / *Sufficient √*	82.43
e	M1	40	50	694	148	55.51	62.65	518	122	74.64	82.43	Yeterli √ / *Sufficient √*	82.43
MATH 132 - Sonlu ve Kombinasyonal Matematik / *MATH 132 - Discrete and Combinatorial Mathematics*													
a	M1	40	50	285	125	58.23	64.63	253	118	88.77	94.4	Yeterli √ / *Sufficient √*	94.4
MATH 225 - Doğrusal Cebir ve Türevsel Denklemler / *MATH 225 - Linear Algebra and Differential Equations*													
a	M1	40	50	209	132	47.58	50.71	128	88	61.24	66.67	Yeterli √ / *Sufficient √*	66.67
MATH 230 - Mühendisler İçin Olasılık ve İstatistik / *MATH 230 - Probability and Statistics for Engineers*													
a	M1	30	75	82	56	53.56	54.94	79	54	96.34	96.43	Yeterli √ / *Sufficient √*	96.43
MBG 110 - Modern Biyolojiye Giriş / *MBG 110 - Introduction to Modern Biology*													
a	M1	50	50	446	52	70.85	83.01	410	52	91.93	100	Yeterli √ / *Sufficient √*	100
PHYS 101 - Genel Fizik I / *PHYS 101 - General Physics I*													
a	M1	50	50	274	48	65.93	70.62	223	40	81.39	83.33	Yeterli √ / *Sufficient √*	83.33
b	M1	50	50	274	48	65.93	70.62	223	40	81.39	83.33	Yeterli √ / *Sufficient √*	83.33
e	M1	50	50	274	48	65.93	70.62	223	40	81.39	83.33	Yeterli √ / *Sufficient √*	83.33
g	M1	50	50	274	48	65.93	70.62	223	40	81.39	83.33	Yeterli √ / *Sufficient √*	83.33
PHYS 102 - Genel Fizik II / *PHYS 102 - General Physics II*													
a	M1	50	50	647	142	64.72	66.77	549	121	84.85	85.21	Yeterli √ / *Sufficient √*	85.21
b	M1	50	50	647	142	64.72	66.77	549	121	84.85	85.21	Yeterli √ / *Sufficient √*	85.21
e	M1	50	50	647	142	64.72	66.77	549	121	84.85	85.21	Yeterli √ / *Sufficient √*	85.21
g	M1	50	50	647	142	64.72	66.77	549	121	84.85	85.21	Yeterli √ / *Sufficient √*	85.21

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
					TURK 101 - Türkçe I / TURK 101 - Turkish I								
c	M1	70	60	612	52	86.39	88.98	605	52	98.86	100	Yeterli √ / Sufficient √	100
g	M1	70	60	612	52	86.39	88.98	605	52	98.86	100	Yeterli √ / Sufficient √	100
					TURK 102 - Türkçe II / TURK 102 - Turkish II								
c	M1	70	60	1438	126	88.83	91.93	1425	126	99.1	100	Yeterli √ / Sufficient √	100
g	M1	70	60	1438	126	88.83	91.93	1425	126	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	a	b	c	d	e	f	g	h
CS 101				✓		✓		
CS 102	✓	✓				✓		
CS 201	✓					✓		
CS 202	✓					✓		
CS 223		✓						
CS 224						✓		
CS 299	✓		✓	✓			✓	
CS 315		✓			✓		✓	
CS 319	✓	✓	✓		✓			
CS 342						✓		
CS 353	✗	✓						
CS 399	✓		✓	✓			✓	
CS 473	✗	✗						
CS 476	✗							
EEE 391	✓						✓	
ENG 101			✓				✓	
ENG 102			✓				✓	
ENG 401			✓				✓	

Dersler / Courses	a	b	c	d	e	f	g	h
GE 100			✓	✓			✓	✓
GE 251			✓				✓	✓
GE 301				✓	✓		✓	
HIST 200			✓		✓		✓	
HUM 111			✓				✓	
HUM 112			✓				✓	
IE 400	✓				✓			
MATH 101	✓		✓		✓			
MATH 102	✓		✓		✓			
MATH 132	✓							
MATH 225	✓							
MATH 230	✓							
MBG 110	✓							
PHYS 101	✓	✓			✓		✓	
PHYS 102	✓	✓			✓		✓	
TURK 101			✓				✓	
TURK 102			✓				✓	

Tablo.4.3.1.1. 2023-2024 Akademik Yılı Güz Dönemi Bilgisayar Mühendisliği Lisans Programı Program Çıktıları Performans Tablosu / *Table.4.3.3.1.* 2023-2024 *Academic Year Fall Semester Computer Engineering 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
CS 101				✔		✔		
CS 102	✔	✔				✔		
CS 201	✔					✔		
CS 202	✔					✔		
CS 223		✔						
CS 224						✔		
CS 315		✔			✔		✔	
CS 319	✔	✗	✔		✔			
CS 342						✔		
CS 353	✔	✔						
CS 473	✗	✗						
CS 476	✗							
EEE 391	✔						✔	
ENG 101			✔				✔	
ENG 102			✔				✔	
ENG 401			✔				✔	
GE 100			✔	✔			✔	✔

Dersler / Courses	Program Çıktıları / Program Outcomes							
	a	b	c	d	e	f	g	h
GE 251			✔				✔	✔
GE 301				✔	✔		✔	
HIST 200			✔		✔		✔	
HUM 111			✔				✔	
HUM 112			✔				✔	
IE 400	✔				✔			
MATH 101	✔		✔		✔			
MATH 102	✔		✔		✔			
MATH 132	✔							
MATH 225	✔							
MATH 230	✔							
MBG 110	✔							
PHYS 101	✔	✔			✔		✔	
PHYS 102	✔	✔			✔		✔	
TURK 101			✔				✔	
TURK 102			✔				✔	

Tablo.4.3.1.1. 2023-2024 Akademik Yılı Bahar Dönemi Bilgisayar Mühendisliği Lisans Programı Program Çıktıları Performans Tablosu / *Table.4.3.3.1.* 2023-2024 Academic Year Spring Semester Computer Engineering 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
CS 101				100.00		100.00		
CS 102	100.00	100.00				100.00		
CS 201	82.40					89.60		
CS 202	82.00					98.00		
CS 223		93.80						
CS 224						92.96		
CS 299	95.52		95.52	95.52			95.52	
CS 315		97.37			93.42		97.37	
CS 319	76.10	89.94	93.71		93.71			
CS 342						88.00		
CS 353	60.94	98.44						
CS 399	93.08		93.08	93.08			93.08	
CS 473	57.58	46.97						
CS 476	38.33							
EEE 391	89.39						89.39	
ENG 101			99.24				99.24	
ENG 102			98.15				98.15	
ENG 401			100.00				100.00	

Dersler / Courses	Program Çıktıları / Program Outcomes							
	a	b	c	d	e	f	g	h
GE 100			100.00	100.00			100.00	100.00
GE 251			91.57				91.57	91.57
GE 301				100.00	100.00		100.00	
HIST 200			100.00		100.00		100.00	
HUM 111			98.59				98.59	
HUM 112			100.00				100.00	
IE 400	100.00				100.00			
MATH 101	98.54		98.54		98.54			
MATH 102	83.33		83.33		83.33			
MATH 132	88.06							
MATH 225	59.15							
MATH 230	95.51							
MBG 110	96.21							
PHYS 101	95.59	95.59			95.59		95.59	
PHYS 102	89.47	89.47			89.47		89.47	
TURK 101			99.12				99.12	
TURK 102			100.00				100.00	

Tablo.4.3.2.1. 2023-2024 Akademik Yılı Güz Dönemi Bilgisayar Mühendisliği Lisans Programı Program Çıktıları Performans Oranları Tablosu / *Table.4.3.2.1. 2023-2024 Academic Year Fall Semester Computer Engineering Undergraduate Program - Program Outcomes Performance Rates Table*

Dersler / Courses	a	b	c	d	e	f	g	h
CS 101				100		100		
CS 102	100	100				100		
CS 201	86.49					77.03		
CS 202	90.82					97.96		
CS 223		92.06						
CS 224						94.02		
CS 315		93.62			93.62		93.62	
CS 319	93.48	71.74	100		100			
CS 342						97.32		
CS 353	87.2	99.2						
CS 473	47.37	42.76						
CS 476	72.27							
EEE 391	92.31						92.31	
ENG 101			100			100		
ENG 102			97.89			97.89		
ENG 401			98.68			98.68		
GE 100			100	100		100	100	

Dersler / Courses	a	b	c	d	e	f	g	h
GE 251			96.67				96.67	96.67
GE 301				100	100		100	
HIST 200			98.31		98.31		98.31	
HUM 111			100				100	
HUM 112			100				100	
IE 400	95.45				95.45			
MATH 101	94.12		94.12		94.12			
MATH 102	82.43		82.43		82.43			
MATH 132	94.4							
MATH 225	66.67							
MATH 230	96.43							
MBG 110	100							
PHYS 101	83.33	83.33			83.33		83.33	
PHYS 102	85.21	85.21			85.21		85.21	
TURK 101			100				100	
TURK 102			100				100	

Tablo.4.3.2.2. 2023-2024 Akademik Yılı BaharDönemi Bilgisayar Mühendisliği Lisans Programı Program Çıktıları Performans Oranları Tablosu / **Table.4.3.2.2.** *2023-2024 Academic Year Spring Semester Computer Engineering Undergraduate Program - Program Outcomes Performance Rates Table*

5. DEĞERLENDİRME / *EVALUATION*

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

The Program Outcomes of the Bachelor of Science in Computer Engineering program are as follows:

a) An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

b) An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental, and economic factors.

c) An ability to communicate effectively with a range of audiences.

d) An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

e) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

f) An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

g) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

h) Take advantage of the campus life where students are engaged in diversity, creativity and commitment outside coursework through artistic, cultural, sportive and intellectual activities.

To ensure continuous improvement of the program, the Program Outcomes are regularly assessed and evaluated. Each Program Outcome is associated with a set of courses chosen for its assessment, which are selected from the required courses in the curriculum.

In the assessment of Program Outcomes through coursework, data are collected from all the students enrolled in the course. However, only the students who received a passing grade are included in the analysis; therefore, data from the students who received any of the grades W, F, FX, FZ, or U are excluded. The metric used for evaluating Program Outcomes is defined as follows:

- M1: T% of students have a grade of G or above, where G is the lowest grade at which a student is deemed successful, and T is the threshold value for the percentage of the successful students. The current faculty-wise standard for this percentage, i.e. T, is 75%. The value of G is determined specifically for each course based on the minimum expected level of success for the course's contribution to the relevant Program Outcome.

Below is the evaluation of the Program Outcomes, demonstrating the extent to which these outcomes are achieved through the required courses in the curriculum of the program.

- **Program Outcome (a)**

The program has 17 required courses in the curriculum that directly measure the ability of students in identifying, formulating and solving a complex engineering problem. These courses are CS 102, CS 201, CS 202, CS 319, CS 319, CS 353, CS 473, CS 476, EEE 391, IE 400, MATH 101, MATH 102, MATH 132, MATH 225, MATH 230, MBG 110, PHYS 101, and PHYS 102.

Considering the performance of students in these courses throughout the past academic year, the level of success in all courses, except CS 473 and CS 476, is within the acceptable range. Therefore, no actions are taken for those courses. For the courses CS 473 and CS 476, student performance will be monitored in the upcoming academic periods, and if the situation does not improve, necessary actions will be taken.

- **Program Outcome (b)**

There are eight courses in the curriculum that measures the ability of students in applying engineering design process to produce solutions that meet specified needs. These courses are CS 102, CS 223, CS 315, CS 319, CS 353, CS 473, PHYS 101, and PHYS 102.

Since the level of success in courses CS 102, CS 223, CS 315, CS 353, PHYS 101, and PHYS 102 is within the acceptable range, no actions are taken. For the courses CS 319 and CS 473, the success ratio is below the expected ratio. Therefore, student performance will be monitored in the upcoming academic periods, and if the situation does not improve, necessary actions will be taken for those courses.

- **Program Outcome (c)**

The curriculum includes 13 courses that directly assess students' ability in effective communication. These courses are CS 319, ENG 101, ENG 102, ENG 401, GE 100, GE 251, HIST 200, HUM 111, HUM 112, MATH 101, MATH 102, TURK 101, and TURK 102. Since the level of success in these courses is within the acceptable range, no actions are taken.

- **Program Outcome (d)**

The curriculum includes three courses that directly assess students' ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments considering the impact of engineering solutions in global, economic, environmental, and societal contexts. These courses are CS 101, GE 100, and GE 301. The level of success in these courses is within the acceptable range; therefore, no actions are taken.

- **Program Outcome (e)**

There are nine courses in the curriculum that measures students' ability to function effectively on a team. These courses are CS 315, CS 319, GE 301, HIST 200, IE 400, MATH 101, MATH 102, PHYS 101, and PHYS 102. Since the level of success in these courses is within the acceptable range, no actions are taken.

- **Program Outcome (f)**

The program includes six CS courses in the curriculum that directly assess students' ability to develop and conduct experiments, analyze and interpret the resulting data, and use

engineering judgment in drawing conclusions. These courses are CS 101, CS 102, CS 201, CS 202, CS 224, and CS 342. The level of success in these courses is within the acceptable range; therefore, no actions are taken.

- **Program Outcome (g)**

The curriculum has 15 courses that measure the ability of students to acquire new knowledge using appropriate learning strategies. These courses are CS 315, EEE 391, ENG 101, ENG 102, ENG 401, GE 100, GE 251, GE 301, HIST 200, HUM 111, HUM 112, PHYS 101, PHYS 102, TURK 101, and TURK 102. The level of success in these courses is within the acceptable range; therefore, no actions are taken.

- **Program Outcome (h)**

Only two courses in the curriculum assess students' ability to achieve this university-wide Program Outcome, which aims to engage students in diversity, creativity, and commitment through artistic, cultural, sports, and intellectual activities outside of coursework. The courses GE 100 and GE 251 used for this assessment have shown satisfactory results in student performance. Therefore, no further action is necessary for these courses.

As a supplement to assessment and evaluation based on coursework, another form of assessment used is the data collected from the Graduation Survey, which is conducted at the end of each academic year. The Graduation Survey is conducted online by sending the survey link to all students who are expected to graduate in the same calendar year. One section of the survey is dedicated to indirect assessment of the Program Outcomes, comprising a total of 10 questions.

TableA.1 in the Appendix A presents the assessment results from this section of the Graduation Survey administered to students at the end of the 2022-2023 academic year. A Likert-type scale was utilized to gauge students' agreement regarding the attainment of Program Outcomes. All questions were rated on a scale of 1 to 5, with 5 indicating the highest agreement. The expected level of attainment for a Program Outcome is a minimum of 3. The mean scores for all questions related to Program Outcomes (a) through (g) exceeded 4.00 out of 5 in last year's assessment. Consequently, no recommendations for improvement are warranted. The mean score of the question addressing Program Outcome (h), which is the university-wide outcome to take advantage of the campus life is 3.57. The reason for the lower score in 2023 is attributed to the earthquake in Turkey, which prevented students from using the social, sports, and cultural facilities on campus and participating in related activities.

5.2. EĞİTİM AMAÇLARININ DEĞERLENDİRİLMESİ / *EVALUATION OF EDUCATIONAL OBJECTIVES*

The Educational Objectives of the Bachelor of Science in Computer Engineering program are as follows:

Bilkent University Computer Engineering Department graduates;

1) Establish successful careers in computer engineering and science, demonstrating strong technical competence and proficiency while adapting to technology changes;

2) Successfully complete advanced studies and research in graduate programs to become recognized and influential experts in their fields;
3) Develop innovative solutions in computer engineering practice and research using creativity and analytical thinking;
4) Are model professionals, exhibiting strong soft skills including collaboration, leadership, initiative, and integrity.

The Educational Objectives are reviewed through the External Advisory Board Meetings and the Graduation Survey.

The External Advisory Board (EAB) comprises both employers and alumni. Board members meet annually or biennially. Most of the members of the EAB are replaced by new members for consecutive meetings to ensure broad representation of both the employers and the alumni. During at least two of every three consecutive EAB meetings, the agenda includes a review of Educational Objectives. Employers and alumni are solicited for their opinions on the expected competencies of graduates from the Computer Engineering Department at Bilkent University. The last EAB meeting was held on November 6, 2023 to discuss and review the Educational Objectives. The following EAB members were present at the meeting:

- Mehmet Yüksel (Havelsan),
- Nurettin Mert Aydın (Udem),
- Yücel Saygın (Sabancı University),
- Baykal Mehmet Uçar (Arçelik),
- Murat Ergun (Commencis),
- Eren Akbaba (Amazon Web Services),
- Özer Aydemir (IOTIQ Yazılım),
- Çağrı Kılıboz (Milsoft).

The meeting log is provided in Appendix B. As detailed in the log, feedback from EAB members indicated that the Educational Objectives of the program adequately addressed the needs of employers and alumni. All EAB members found the current version of the program educational objectives to be suitable, well-stated, and satisfactory. They recommended retaining them in their current form. Based on this feedback, no changes to the Educational Objectives were deemed necessary.

Apart from the EAB meetings, another method of reviewing the Educational Objectives is through the Graduation Survey (see Appendix.A). To gather students' opinions, the list of candidate characteristics formulated by employers, alumni, and faculty members is presented to graduating students in the final section of the graduation survey, specifically focusing on the Educational Objectives of the program.

The students were asked the following question:

"What would you like to achieve in your career in three to five years after graduation?"

Students were provided with a list in Table.A.2 of Appendix A and were asked to indicate their preferences. The table displays the scores assigned to each characteristic by graduating students. These scores indicate that students agree on the importance of all these characteristics.

Appendix A. Graduation Survey Results

Table A.1. Graduation Survey Results on Program Outcomes

	Mean
(a) Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	4.30
(b) Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	4.15
(c) Communicate effectively with a range of audiences.	
• Communicate effectively in writing with a range of audiences.	4.62
• Perform effective oral communication with a range of audiences	4.38
(d) Ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	4.13
(e) Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	
• Function on a team whose members together provide leadership, create a collaborative and inclusive environment.	4.09
• Establish goals, plan tasks, and meet objectives individually and also in teams.	4.45
(f) Develop and conduct experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.30
(g) Acquire and apply new knowledge if needed, using appropriate learning strategies.	4.57
(h) Take advantage of the campus life through artistic, cultural, sportive and intellectual activities.	3.57

TableA.2. Graduation Survey Results on Educational Objectives

Characteristic	Response (%)	Response Count
Establish successful careers in computer engineering and science, and demonstrating strong technical competence and proficiency while adapting to technology changes	80.40	41
Successfully complete advanced studies and research in graduate programs	37.30	19
Able to develop innovative solutions in computer engineering practice and research using creativity and analytical thinking, and become a recognized and influential expert in your field	49.00	25
Be a role model as a professional, exhibit strong soft skills including collaboration, leadership, initiative, and integrity	52.90	27

APPENDIX B. External Advisory Board Meeting Log

DATE
November 6, 2023

PLACE
Faculty of Engineering, Room: EA 409

PARTICIPANTS
EAB Board Members:

Mehmet Yüksel (Havelsan, AE[1]), Nurettin Mert Aydın (Udemy, AE), Yücel Saygın (Sabancı University, A), Baykal Mehmet Uçar (Arçelik, E), Murat Ergun (Commencis, E), Eren Akbaba (Amazon Web Services, AE), Özer Aydemir (IOTIQ Yazılım, AE), Çağrı Kılıboz (Milsoft, AE)

Department Members:

Prof. Dr. Selim Aksoy (Chairman), Prof. Dr. H. Altay Güvenir, Assoc. Prof. Dr. Can Alkan, Prof. Dr. Fazlı Can, Assoc. Prof. Dr. Ercüment Çiçek, Asst. Prof. Dr. Sinem Sav, Prof. Dr. Uğur Doğrusöz, Prof. Dr. Uğur Güdükbay, Asst. Prof. Dr. Özgür Öğüz, Asst. Prof. Dr. Eray Tüzün, Prof. Dr. İbrahim Körpeoğlu, Asst. Prof. Dr. Anıl Koyuncu, Prof. Dr. Özgür Ulusoy

AGENDA

1) Review of the Program Educational Objectives of the undergraduate program at the Department of Computer Engineering

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[1] A: Alumnus, E: Employer, AE: Alumnus and Employer

2) Employers' expectations from new employees and the implications of these expectations on our curriculum and education

3) Feedback about Bilkent CS graduates, possibly in comparison with others (strong and weak points)

MEETING LOG

Meeting started at 13:30.

The Chairman of the Computer Engineering Department, Prof. Dr. Selim Aksoy, gave a brief introduction on the agenda of the meeting. He gave a short presentation about the purpose of the meeting. He gave information about the function of External Advisory Board and some information and statistics about the Computer Engineering Department curriculum at Bilkent University.

The board members were asked to introduce themselves, including information about their current position at the company they are affiliated with. Prof. Aksoy also informed the board members about the questions that are expected to be answered. Multiple rounds were made to collect additional comments from all board members. Below, for each member, aggregated comments for all rounds are given.

YÜCEL SAYGIN (Sabancı University)

Yücel Saygın serves as a faculty member in the Department of Computer Engineering at Sabancı University. He graduated from Bilkent University's Department of Computer Engineering in 1994 and obtained his Master's degree from the same university in 1996, followed by a Ph.D. in 2001. Since 2001, he has been working as a faculty member at Sabancı University and currently holds the title of professor, continuing his academic career.

Regarding self-confidence, he stated, "Bilkent graduates are good in terms of work systems; they are systematic. Students come well-equipped in terms of curriculum. Bilkent graduates excel in theoretical knowledge."

On entrepreneurship, he mentioned, "Students establish start-ups. According to Sabancı, Bilkent's curriculum is more rigorous, and elective courses are focused on computer engineering. At Sabancı University, students can easily pursue a double major by taking elective courses from different departments, which broadens their perspectives. I think this is a good practice."

He expressed that the idea of employees going abroad is seen as a result of a general globalization trend.

He also noted that taking too many technical courses at Bilkent is challenging due to the perceived difficulty of technical classes.

BAYKAL MEHMET UÇAR (Arçelik Co.)

Mehmet Uçar, who has been working at Arçelik for 16 years and currently holds the position of Head of Software Engineer. He graduated from Boğaziçi University's Computer Engineering Department in 2007. He mentioned his experiences with Bilkent University students through CS FAIR and collaborative projects.

With 4-5 years of experience in student development programs, he observes that new graduates are more focused and specific in their roles and responsibilities compared to the past. He notes that with the diversity of technology, there is an increased need for end-to-end visibility in the job. Emphasizing the importance of developing the ability to clarify questions like 'Why are we doing this job? Why does this role exist? Why is this project being undertaken?' at the core of operational excellence.

He expresses the continuous effort to provide feedback and suggests that holding meetings more frequently and transitioning to an interdisciplinary approach could be beneficial. He emphasizes the necessity of knowing the field and being an expert in one's job in the companies he has worked for. This includes learning engineering topics in the field and engaging in mentorship. He highlights the importance of one-on-one communication, especially regarding how to progress in the industry and career advancement.

He mentions that issues like data privacy with Generative AI, GDPR, and KVKK are becoming critical obstacles. He wonders if it is possible to open a course on topics like cybersecurity. He mentions providing 3-4-week training sessions to new colleagues and conducting these training sessions during orientation periods. He notes that global compatibility, regulations, and data issues have become important in all projects and believes it is possible to raise awareness among students on these topics.

He discusses collaborations with some schools where there are around 20 partnerships. There could be periods with work placements, and he talks about students questioning whether they are on the right path, whether they are working in the right field, and the ability to explore. He suggests exploring more operational paths for students, especially encouraging part-time project assistantships for final-year students. He wonders if projects initiated by students could be more prominent in the fourth year at Bilkent.

SELİM AKSOY (Chairman)

He mentioned that they hold meetings with 3rd-year students who are interested in elective courses based on mentorship and volunteering. They provide guidance, help them explore different industries, and support them with their graduation projects. He stated that Eray Hoca organizes seminars for their graduation projects, and they can invite students to these seminars to present the big picture in different standards.

Selim Aksoy also mentioned, 'We don't have a formal program for aspiring engineering. We don't have a situation that can be formally encouraged; unfortunately, for us, the priority is for them to complete their course load and focus on their core courses. It depends a bit on the students' time management because some students can handle it. The broader the range of elective courses, the more important it is for us. Through you, we can design new electives.

We have two instructors who understand the business side of projects, and they are our graduates. They regularly meet with project groups and offer perspectives different from what we can explain. We are trying to improve this aspect, and sustainability is important for us. The major-minor aspect is university policy. There is permission for double majoring with physics and mathematics, and a minor program allows taking more plus-minus courses, but it is not very popular due to the program's intensity. Approximately 10-15 out of around 200 graduates choose this. There are groups participating in unit projects, starting companies, and supporting various competitions related to entrepreneurship. They can receive support from companies and continue here. GE 401-402 has final projects where students from different departments come together, forming virtual companies and competing in the virtual stock market. However, it is not preferred, and double majors and minors are not very common. Those who wish to take extra elective courses can do so, but it is not widely chosen.

We have a data privacy course, and the emphasis is more on the academic side than cybersecurity. Such courses can be taken, and the courses that can be offered are limited due to the number of instructors and company support.

In subjects like IT law, our law faculty members can organize seminars from time to time, and maybe it can be mentioned within the scope of elective courses to create awareness.

As a university, we are open to collaboration, and the most important thing at this point is to find students. If we can complete the part of finding students, we are open to any kind of idea.'

He also mentioned that seminars are organized for students involved in the mentorship program, but a seminar could be arranged for all students to create awareness on these topics. It was agreed to discuss organizing a seminar on the mentioned topics later.

MURAT ERGUN (Commencis)

Murat Ergun, who graduated from Sabancı University's Computer Engineering Department in 2007, has been serving as the Software Development Team Lead at Commencis for 11 years. He sponsored the CS FAIR event and currently provides guidance to students as an Innovation expert within the scope of the CS 491/492 course.

He believes that students engaging in projects during their university years can provide a significant advantage for inexperienced software developers when entering the industry.

Expressing that Commencis prefers graduates and interns from particularly reputable universities in their hiring process, he believes that confidence is related to generations and expectations. He mentioned that they aim to increase students' confidence by assigning projects to interns and expecting them to demonstrate their work after reaching a certain point.

Stating that competencies align with industry expectations, he emphasized that candidates with experience have an advantage in the hiring process. Additionally, he noted the inclusion of the AWS Cloud program for interns during their internship period and highlighted the potential benefits of such university-industry collaborations for the sector.

Expressing the need for more collaboration with the industry, he suggested that academicians, especially those working in the field of software engineering, could bring more resources to

the school. Regarding internships, he mentioned the difficulty in employing sophomore interns, stating that third-year graduates are more advantageous as they have completed more advanced courses.

Lastly, emphasizing the importance of a practical ethics course, he believes that providing practical knowledge to students on decision-making matters is crucial. Pointing out that Bilkent graduates play significant roles in decision-making in the professional world, he thinks teaching ethics with examples could be beneficial.

EREN AKBABA (Amazon Web Services)

Eren Akbaba graduated from the Bilkent University Computer Engineering Department in 2014. Previously, he worked for 4 years at Oracle, 1 year at SAP, and 3 years at IBM. For the past 1.5 years, he has been working at Amazon Web Services. He discussed the strengths of Bilkent graduates in job interviews and internships. He recommended two essential concepts, Leadership Principles and the Star Method, and suggested including them in the curriculum.

He mentioned that Bilkent graduates stand out in job interviews and internships, especially in junior positions. He believes that Bilkent has a well-functioning and robust structure. He stated that Bilkent students can successfully express themselves in human resources processes, projects, or business partnerships.

He recommended two important concepts: Leadership Principles and the Star Method. He pointed out that these concepts are highly valued in global major companies like Microsoft and Google. He expressed that having these topics, even in a small way, in the curriculum can provide significant advantages for students.

Another suggestion he made is the Cloud Computing course program. He said, 'If you want, we can explain this topic, or we can bring guest speakers to discuss these topics. I think this course program should be more geared towards the 4th year.'

Selim Aksoy mentioned at this point that the Cloud Computing course did not continue this semester due to the difficulty of being managed from the United States by Miray Kaş (class schedules, time difference).

Finally, he wanted to talk about the AWS Cloud Practitioner certification program. He mentioned that this program could be recommended as a fundamental certification for 3rd and 4th-year students. He advised students to complete this certification program.

ÖZER AYDEMİR (IOTIQ Gmbh)

Özer Aydemir, is one of the founders of IOTIQ and graduated from Bilkent University with a degree in Computer Engineering in 2002. He also completed his Master's degree at Bilkent University in 2005. He discussed the confidence and assertiveness of Bilkent graduates. He mentioned that IOTIQ regularly hires around 20 interns from Bilkent and emphasized the importance of industry collaboration.

He mentioned that IOTIQ hires approximately 20 interns from Bilkent University every year, and some of them continue to work with the company. He also highlighted their consistent participation in CS FAIR over the years.

He stated that Bilkent University graduates are more confident compared to graduates from other universities.

NURETTİN MERT AYDIN (Udemy)

Nurettin Mert Aydın graduated from the Bilkent University Computer Engineering Department in 2003 is currently working at UDEMY for 3 years. After 7 years of managerial experience, he transitioned to an individual contributor role. He shared his experiences at Udemy. He discussed the need for a balance between theoretical and industry-oriented education, emphasizing the importance of evaluating and focusing on individual interests.

In light of these experiences, he observed that Bilkent students have a different perspective. He believes that the perspective provided by Bilkent offers a well-designed foundation for achieving goals in the right place.

In real-world scenarios, engineers are expected to make instant decisions and focus on details after a certain business value has been determined. However, Bilkent graduates, due to their attention to detail and perfectionism, can focus on details before determining business value. Understanding the meaning of working with a product and a designer, as well as the importance of rapid prototyping, can help them adapt more quickly. He thinks that Bilkent has a curriculum that teaches how to learn.

Academically, he supports the idea of academia staying true to its academic nature. However, he mentions not being entirely sure about how effective the university is in terms of industry collaboration. He believes that it is important to evaluate the theoretical knowledge provided by the university and direct it towards one's own interests. Otherwise, assigning the same responsibility to everyone, especially for an engineer dealing with a product, may be insufficient.

Sharing experiences of students within an organization that starts hiring graduates after 3 years post-graduation, he expressed that students try to discover their interests and preferences during this period. After learning everything, graduates may struggle, but those who continue academically tend to be more effective in industry collaborations. He emphasized that those who pursue higher levels in software engineering and science could be more effective in such processes and organizations, contributing more to both the university and the industry.

Furthermore, he shared the view that the curriculum is flawless but mentioned a long-standing complaint. He pointed out that it is necessary to make Computer Networks a mandatory course and that many graduates choosing this course as an elective is significant.

Uğur Doğrusöz added the opinion that the real need is to have market-focused departments. He highlighted the scarcity of departments like CTIS and their curriculum focusing on

research and researcher training in computer science. If market-ready graduates are desired, he expressed the need for more departments like CTIS.

MEHMET YÜKSEL (Havelsan)

Mehmet Yüksel graduated from the Bilkent University Computer Engineering Department in 1999. He gained four years of experience at Cybersoft before entering the workforce. Subsequently, since 2004, he has been working at Havelsan as a Software Engineer and has been serving as a group leader since 2019.

From the perspective of the defense industry, he believes that technical elective courses or similar arrangements should be made regarding defense industry needs at the technical level so that graduates can adapt more easily to the sector and acquire the necessary skills after graduation. At the same time, in terms of soft skills, he emphasizes that graduates are generally part of a whole but need the ability to focus more after graduation. He emphasizes the importance of interventions in the 4th year for them to gain this skill. Focusing on hardware engineering, systems engineering, management of complex projects, product development processes, and maintenance, he suggests that graduates can gain this perspective.

He believes that Bilkent graduates are talented in a corporate sense, expresses that updating the education curriculum for the defense industry could be possible to train competent graduates in the defense industry, perhaps providing a model for students from other universities to develop themselves.

Pointing out that real-time operating systems are frequently used in the defense industry at the technical level, he suggests that adding extra courses to the 4th year and developing application development courses for real-time operating systems could be beneficial for competent graduates in the defense industry. He also expresses that training in areas such as cloud computing could enhance the competencies of graduates.

He believes that more emphasis should be placed on design patterns and open architecture in the defense industry, also suggests that additional support training for closing the gaps in cybersecurity application development could be considered. Especially in an environment where the number of schools is limited, he emphasizes the need to share similar studies with other universities and consider collaborations to increase training in this field.

ÇAĞRI KILIBOZ (Milsoft)

Çağrı Kılıboz graduated from the Bilkent University Computer Engineering Department in 2010. He continued his education by completing the Bilkent University Master's program in 2013. He is currently working at Milsoft.

He shares observations that Bilkent graduates are generally more confident and social, emphasizes that the ability to work on projects together contributes to these characteristics. In technical terms, he mentioned that more specific courses focusing on artificial intelligence and software engineering skills could be beneficial. He expressed that giving more weight to

practical courses and focusing on industry-oriented departments could help students contribute more to the working sector. He clearly stated his view that fundamental knowledge provides significant contributions to students and believes that the goals are generally in place.

However, expressing uncertainties about the balance between theoretical and industry-oriented education, he thinks that providing industry-oriented courses to students can help them consider pros and cons. He pointed out that candidate engineering programs may cause a loss of time while teaching students new topics and suggested that finding a balance in this regard and giving students the choice could be more beneficial. This could help students understand their areas of interest more clearly. He also mentioned that if the course load in the 4th year is reduced, students could have the opportunity to participate in such experiences.

He thinks that adding elective courses focusing on cloud technology, container technology, and popular areas to the curriculum for all students would be beneficial, and these courses should also be elective.