

Assessment of General Chemistry I (KIM101 and KIM101E) Courses 2017/2018 Summer Semester

General Chemistry I (KIM 101 and KIM 101E) course is designed to emphasize problem solving skills and critical thinking to engineering students as they learn the principals of chemistry and helps them to focus into the world of science and engineering.

General Chemistry I courses are given in two languages; Turkish and English:

KIM 101 Genel Kimya I, course language Turkish (3 credits)

KIM 101E General Chemistry I, course language English (3 credits)

Chemistry Department opens these courses in Summer semesters with parallel sessions.

Students must attend the section for which they are registered. A minimum of **70% attendance is required**. Periodic attendance checks are taken in class. A student who is absent for 5 lectures (over 14 lectures) gets VF.

All the students registered in the course, regardless of their course language, take the same midterm and final exam on the same day and at the same time. Grade distributions are done separately for Turkish and English sessions (as KIM101 and KIM101E) and all students are considered in the same grade distribution based on their course language. Students take a *multiple choice exam* as midterm and final exam about their general knowledge in chemistry. Exam papers are standardized so that the grade entry may be done using an optic reader. This offers the advantage of speed and lessens errors. The grades are recorded and are posted on the website www.kimya.itu.edu.tr.

The grading scheme is : **Midterm I** 25%, **Midterm II** 25%, **Final exam** 50%.

In summer semesters, midterm and final exam questions are prepared by the course instructors.

This semester, 447 students (KIM 101 – 225 students and KIM101E - 222 students) from various departments took the course.

Table 1 shows the grade averages for each midterm and final exams of General Chemistry I-KIM 101 and KIM 101E in 2017/2018 Summer Semester.

Table 1. 2017/2018 Summer KIM 101 and KIM101E grade averages (points are over 100)

	Midterm I	Midterm II	Final Exam	General Average
KIM 101	50.35	46.00	44.80	46.49
KIM 101E	47.15	39.60	45.30	44.34

In **Table 2** and **3**, given below, 2017/2018 Summer Semester grade averages are compared with the previous summer semesters for KIM101 and KIM101E, respectively.

Table 2. Success rate for KIM 101 section (points are given over 100)

	Midterm (40%)		Final exam (60%)	General Average
2014/2015 Summer*	50.32		46.96	48.30
2015/2016 Summer*	61.00		46.44	52.26
2016/2017 Summer*	53.92		39.88	45.5
	Midterm I (25%)	Midterm II (25%)	Final Exam (50%)	General Average
2017/2018 Summer*	50.35	46.00	44.80	46.49

*multiple choice exams

Table 3. Success rate for KIM 101E section (points are given over 100)

	Midterm (40%)		Final exam (60%)	General Average
2014/2015 Summer*	48.88		43.76	45.81
2015/2016 Summer*	54.16		43.96	48.04
2016/2017 Summer*	51.20		39.36	44.10
	Midterm I (25%)	Midterm II (25%)	Final Exam (50%)	General Average
2017/2018 Summer*	47.15	39.60	45.30	44.34

*multiple choice exams

For Turkish sections KIM 101:

The number of students who passed the course (including DC and DD) were 177 over 225 which is **78.67 %** of the total students.

Fail (FF) grades are 29 over 225, which is **12.88 %** of the total students. Students having VF grade is 19 over 225, which is **8.44%**.

For English sections KIM 101E:

The number of students who passed the course (including DC and DD) were 160 over 222, which is **72.07 %** of the total students.

Fail (FF) grades are 40 over 222, which is **18.02 %** of the total students. Students having VF grade is 22 over 222 that is **9.91 %**.

Table 4 and **Table 5** includes the percentages related with each grade for KIM 101 and KIM 101E sections:

Table 4: Grade distributions and corresponding percentages for KIM 101 sections

Letter grade	Grade	Number of students (over 225 students)	Percentage %
AA	Excellent	19	8.44
BA	Good-excellent	25	11.11
BB	Good	13	5.78
CB	Good-satisfactory	28	12.44
CC	satisfactory	46	20.44
DC	Satisfactory-low pass	18	8.00
DD	Low pass	28	12.44
FF	Fail	29	12.89
VF	Fail without midterm	19	8.44

Table 5: Grade Distributions and corresponding percentages for KIM 101E sections

Letter grade	Grade	Number of students (over 222 students)	Percentage %
AA	Excellent	6	2.70
BA	Good-excellent	23	10.36
BB	Good	27	12.16
CB	Good-satisfactory	16	7.21
CC	satisfactory	62	27.93
DC	Satisfactory-low pass	7	3.15
DD	Low pass	19	8.56
FF	Fail	40	18.02
VF	Fail without midterm	22	9.91

Figure 1 and **Figure 2** shows the grade distributions for KIM101 and KIM101E for 2017-2018 Summer Semester.

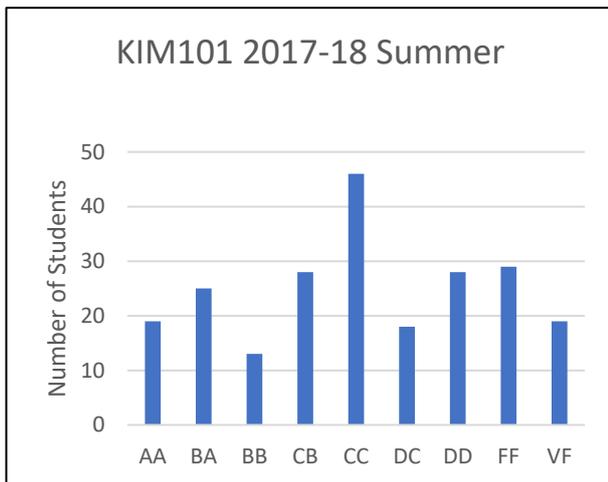


Figure 1. Grade distributions for KIM 101

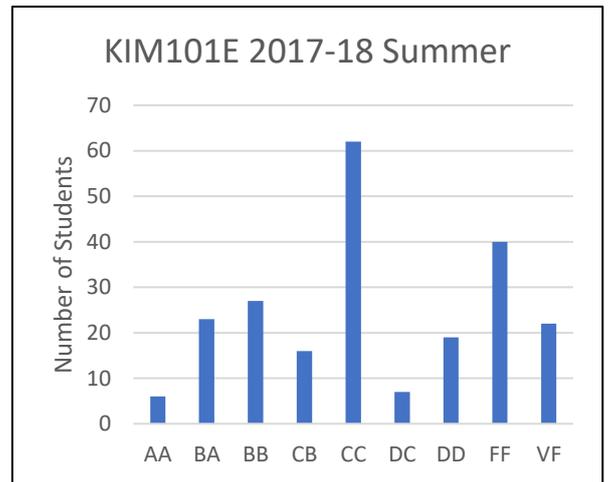


Figure 2. Grade distributions for KIM 101E

2017/2018 Summer student numbers and averages **related to each department** for KIM 101 and KIM 101E sessions are given in **Figure 3** and **4**, respectively.

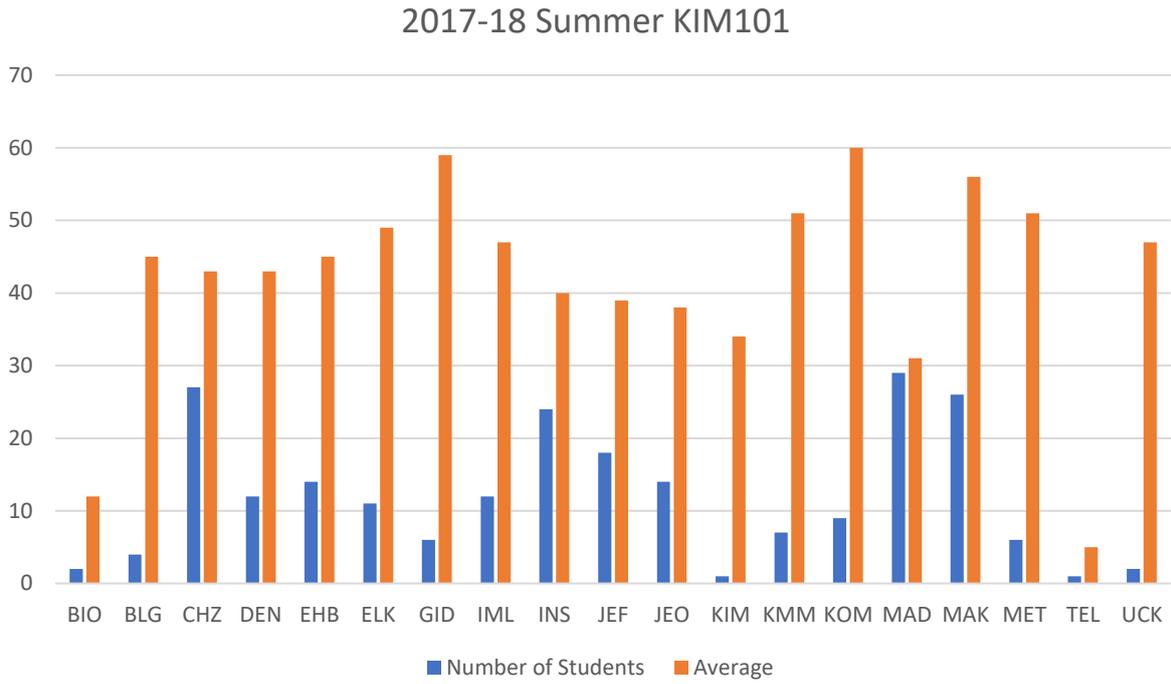


Figure 3. 2017/2018 Summer Semester Averages by Departments for KIM 101 sections.

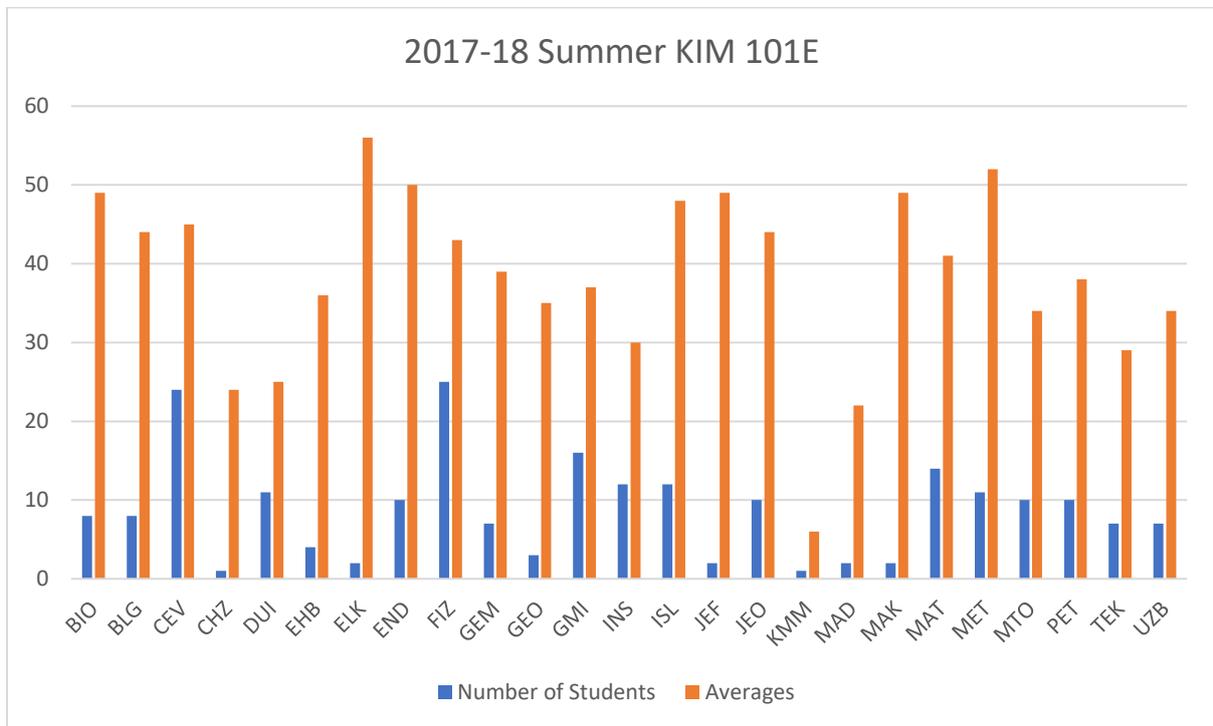


Figure 4. 2017/2018 Summer Semester Averages by Departments for KIM 101E sections.

Undergraduate program codes can be reached from the website:
<https://www.sis.itu.edu.tr/EN/about-sis/undergraduate-program-codes.php>

The highest averages are from KOM (Control and Automation Engineering) and GID (Food Engineering) for KIM101 and are from ELK (Electrical Engineering) and MET (Metallurgical and Materials Engineering) for KIM101E.

There are also an access related with the course statistics (Outcomes, histograms, syllabus, etc.) through the website <https://otm.kimya.itu.edu.tr/o/>.

ABET Committee,
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