

CHEMISTRY MAJOR
100% ENGLISH CURRICULUM
(Students starting the course from the 2020-2021 Fall Semester onwards)

Course Code	Course Name	(T+A+L)	ECTS	Course Code	Course Name	(T+A+L)	ECTS
1st Year / FALL Semester				1st Year / SPRING Semester			
CHEM-107	General Chemistry I	(4-2-0)	7	CHEM-108	General Chemistry II	(4-2-0)	8
CHEM-197	General Chemistry Laboratory I	(0-0-3)	4	CHEM-198	General Chemistry Laboratory II	(0-0-3)	4
FS-101	Occupational Health and Safety I	(1-0-0)	1	FS-102	Occupational Health and Safety II	(1-0-0)	1
PHYS-113	Physics for Natural Science I	(3-0-2)	6	PHYS-114	Physics for Natural Science II	(3-0-2)	6
MATH-101	Calculus I	(4-2-0)	7	MATH-102	Calculus II	(4-2-0)	7
SSTR-101	Principles of Atatürk and the	(2-0-0)	2	SSTR-102	Principles of Atatürk and the	(2-0-0)	2
(HIS-101)	History of Turkish Revolution I			(HIS-102)	History of Turkish Revolution II		
INF-100	Introduction to Computer Systems	(2-0-2)	3	ENG-112	Academic English	(2-0-0)	2
FS-103	Career Planning	(1-0-0)	2				
			32				30
2nd Year / FALL Semester				2nd Year / SPRING Semester			
CHEM-XXX	Department Elective I	(3-0-0)	4	CHEM-202	Analytical Chemistry II	(4-2-0)	6
TUR-101	Turkish I	(2-0-0)	2	CHEM-204	Organic Chemistry II	(4-2-0)	6
CHEM-201	Analytical Chemistry I	(4-2-0)	6	CHEM-206	Inorganic Chemistry II	(4-2-0)	6
CHEM-291	Analytical Chemistry Laboratory I	(0-0-3)	3	CHEM-292	Analytical Chemistry Laboratory II	(0-0-3)	3
CHEM-203	Organic Chemistry I	(4-2-0)	6	CHEM-293	Organic Chemistry Laboratory I	(0-0-3)	3
CHEM-205	Inorganic Chemistry I	(4-2-0)	6	CHEM-XXX	Department Elective II	(3-0-0)	4
XXX	Non-Technical Elective I	(2-0-0)	3	TUR-102	Turkish II	(2-0-0)	2
			30				30
3rd Year / FALL Semester				3rd Year / SPRING Semester			
CHEM-306	Biochemistry I	(4-2-0)	6	CHEM-307	Biochemistry II	(4-2-0)	5
CHEM-305	Organic Chemistry III	(4-1-0)	4	CHEM-309	Physical Chemistry II	(4-2-0)	5
CHEM-394	Organic Chemistry Laboratory II	(0-0-3)	3	CHEM-397	Biochemistry Laboratory	(0-0-3)	3
CHEM-XXX	Department Elective III	(3-0-0)	4	CHEM-398	Physical Chemistry Laboratory	(0-0-3)	3
CHEM-308	Physical Chemistry I	(4-2-0)	6	CHEM-XXX	Department Elective IV	(3-0-0)	4
CHEM-395	Inorganic Chemistry Laboratory	(0-0-3)	3	CHEM-XXX	Department Elective V	(3-0-0)	4
FEN401	Professional Practice I	(0-6-0)	6	CHEM-XXX	Department Elective VI	(3-0-0)	4
			32				28
4th Year / FALL Semester				4th Year / SPRING Semester			
CHEM-XXX	Department Elective VII	(3-0-0)	4	CHEM-XXX	Department Elective IX	(3-0-0)	5
CHEM-410	Instrumental Analysis	(3-0-0)	3	CHEM-492	Graduation Project II	(0-4-0)	6
CHEM-490	Instrumental Analysis Laboratory	(0-0-3)	2	CHEM-XXX	Department Elective X	(3-0-0)	5
CHEM-XXX	Department Elective VIII	(3-0-0)	4	CHEM-XXX	Department Elective XI	(3-0-0)	5
CHEM-491	Graduation Project I	(0-4-0)	6	XXX	Non-Technical Elective II	(2-0-0)	3
ENG-111	English for Business Life	(2-0-0)	2	XXX	Technical Elective II	(3-0-0)	5
XXX	Technical Elective I	(3-0-0)	4				
FEN-402	Professional Practice II	(0-6-0)	6				
			31				
				OR			
				CHEM-493	Industrial Application	(0-20-0)	20
				CHEM-492	Graduation Project II	(0-4-0)	6
				XXX	Non-Technical Elective II	(2-0-0)	3
							29
TOTAL: 242 ECTS							

Note:

Red shows "Required" department courses

Blue shows "Equivalent" courses

Green shows "Service" courses

Course Code	Course Name	(T+A+L)	ECTS
Department Elective Courses			
CHEM 420	Polymer Chemistry	(3-0-0)	5
CHEM 421	Chemical Kinetics	(3-0-0)	4
CHEM422	Electrochemistry	(3-0-0)	4
CHEM 423	Non-Metal Chemistry	(3-0-0)	4
CHEM 424	Metal Chemistry	(3-0-0)	4
CHEM 425	Organic Technologies	(3-0-0)	4
CHEM426	Inorganic Technologies	(3-0-0)	4
CHEM427	Environmental Chemistry	(3-0-0)	4
CHEM 428	Green Chemistry	(3-0-0)	4
CHEM 429	Molecular Structure and Symmetry	(3-0-0)	4
CHEM 430	Quantum Chemistry	(3-0-0)	4
CHEM 431	Spectroscopy and Spectral Analysis	(3-0-0)	5
CHEM432	Food Chemistry	(3-0-0)	5
CHEM433	Separation Techniques	(3-0-0)	4
CHEM 434	Heterocyclic Chemistry	(3-0-0)	4
CHEM435	Biotechnology	(3-0-0)	4
CHEM436	Mathematics for Chemists	(3-0-0)	4
CHEM 437	Molecular Modeling	(3-0-0)	5
CHEM 438	Scientific Research and Presentation Techniques	(3-0-0)	4
CHEM 439	Drug Chemistry	(3-0-0)	5
CHEM 440	Nano-chemistry	(3-0-0)	5
CHEM 441	NMR	(3-0-0)	5
Non-Technical Elective Courses			
MATH-452	History of Mathematics	(3-0-0)	4
MAN-451	Introduction To Business	(2-0-0)	3
MAN-452	Entrepreneurship	(2-0-0)	3
MAN-453	Total Quality Management	(2-0-0)	3
MAN-457	Innovation Management in Entrepreneurial Firms	(2-0-0)	3
<ul style="list-style-type: none"> • All undergraduate students registered in the Department of Chemistry are required to take all courses specified in the Undergraduate Curriculum of the Department, regardless of credits. • The "Technical Elective" courses, apart from Chemistry, can be taken from the courses offered by the Faculty of Basic Sciences and the Faculty of Engineering with the approval of the advisor. • "The "Department Elective" courses are elective courses offered by the Department of Chemistry. • The total credit required for graduation is 242 ECTS. • The duration of the Summer Internship is 40 working days. It can be completed in two periods as 20+20 or 25+15. • Non-Technical Courses can be selected from elective courses offered by all faculties within the University, excluding the courses offered by the Department of Chemistry. These courses can be chosen from the pools prepared by the departments. 			

Chemistry Department Prerequisites for students starting the course from the 2020-2021 Fall Semester onwards.

Course code	Course Name	Prerequisite	
¹ CHEM 202	Analytical Chemistry II	CHEM 201	Analytical Chemistry I
¹ CHEM 204	Organic Chemistry II	CHEM 203	Organic Chemistry I
¹ CHEM 305	Organic Chemistry III	CHEM 203 CHEM 204	Organic Chemistry I Organic Chemistry II
¹ CHEM 206	Inorganic Chemistry II	CHEM 205	Inorganic Chemistry I
¹ CHEM 307	Biochemistry II	CHEM 306	Biochemistry I
¹ CHEM 309	Physical Chemistry II	CHEM 308	Physical Chemistry I
² CHEM 291	Analytical Chemistry Laboratory I	CHEM 197	General Chemistry Laboratory I
² CHEM 292	Analytical Chemistry Laboratory II	CHEM 197	General Chemistry Laboratory I
² CHEM 293	Organic Chemistry Laboratory I	CHEM 197 CHEM 198	General Chemistry Laboratory I General Chemistry Laboratory II
² CHEM 394	Organic Chemistry Laboratory II	CHEM 197 CHEM 198	General Chemistry Laboratory I General Chemistry Laboratory II
² CHEM 395	Inorganic Chemistry Laboratory	CHEM 197 CHEM 198	General Chemistry Laboratory I General Chemistry Laboratory II
² CHEM 397	Biochemistry Laboratory	CHEM 197 CHEM 198	General Chemistry Laboratory I General Chemistry Laboratory II
² CHEM 398	Physical Chemistry Laboratory	CHEM 197 CHEM 198	General Chemistry Laboratory I General Chemistry Laboratory II
² CHEM 490	Instrumental Analysis Laboratory	CHEM 197 CHEM 198	General Chemistry Laboratory I General Chemistry Laboratory II

¹ In order for the student to take the course, they must have completed the prerequisite course and fulfilled the attendance requirement for the course.

² In order for the student to take the course, they must have been successful in the prerequisite course.