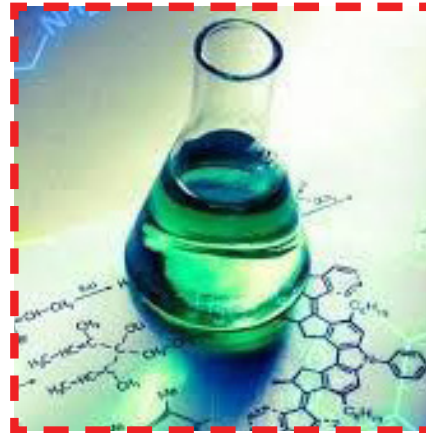


Türkiye'nin Beyin Üssü

KİMYA MÜHENDİSLİĞİ

Öğrenim Dili: İngilizce (Zorunlu İngilizce Hazırlık) Puan Türü: SAY



Kimya Mühendisliği Nedir?

Kimya mühendisliği hammadde ve kimyasalların yararlı ve değerli ürünlere dönüştürülmesini hedefleyen ve bu amaçla matematik, fizik, kimya gibi temel bilimlerin yanında yaşam ve mühendislik bilimlerinin temel ilke ve yaklaşımlarını da esas alan çok disiplinli bir mühendislik alanıdır.

Kimya Mühendisliği Bölümünde Alınan Dersler Nelerdir?

Kimya Mühendisliği Bölümü, mühendislik disiplini ile bütünleşik olan temel bilimlerin teorik ve uygulamalı derslerinden oluşmaktadır. Kimya Mühendisliği Bölümü öğrencileri için; petrokimya, kimya, ilaç, biyoteknoloji, kimyasal süreç modelleme, çevre ve enerji yönetimi, yenilenebilir enerji, atık yönetimi, biyomalzemeler, nanoteknoloji, katalizörler ve katalitik reaksiyonlar, polimer bilimi, süreç mühendisliği, biyoinformatik ve biyoistatistik gibi birçok alanda uzmanlaşma fırsatı oluşturacak bir eğitim sunulmaktadır.

Kimya Mühendislerinin Çalışma Alanları Nelerdir?

Kimya mühendislerinin iş imkânları çok çeşitlidir. Kimya mühendisleri kimyasal süreç ve tesis içeren her türlü sektörde üretim, planlama, pazarlama ve araştırma-geliştirme departmanlarında çalışabilirler.

Sektör olarak, kimya mühendisleri için petrokimya, kimya, ilaç, enerji, çimento, boya, plastik, biyoteknoloji, tarım, metal, kağıt, gıda ve tekstil gibi birçok sektörde çalışma fırsatı bulunmaktadır. Kimya mühendisleri devlet ve özel sektörde çalışabilmenin yanı sıra tercihe göre yurt içinde ya da yurt dışında çeşitli araştırma desteklerinin yardımıyla akademik kariyer yolunu da izleyebilmektedir.

DERS PROGRAMI

YEAR ONE															
1st Term							2nd Term								
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
PHYS101	Physics I*	3	0	2	4	6		PHYS102	Physics II*	3	0	2	4	6	
MATH101	Calculus I*	3	2	0	4	6		MATH102	Calculus II*	3	2	0	4	6	
CHEM101	General Chemistry I *	3	0	2	4	6		CHEM102	General Chemistry II*	3	0	2	4	6	
CHE105	Computer Aided Engineering Graphics*	2	0	2	3	4		CHE102	Introduction to Chemical Engineering	3	0	0	3	4	
RPSC109	Positive Psychology and Communication Skills	3	0	0	3	5		MBG154	General Biology*	2	0	2	3	4	
RCUL101	University Culture I*	0	2	0	1	1		RCUL102	University Culture II*	0	2	0	1	1	
TURK101	Turkish Language I	2	0	0	2	3		TURK102	Turkish Language II	2	0	0	2	3	
Total Credits		16	4	6	21	31		Total Credits		16	4	6	21	30	
YEAR TWO															
3rd Term							4th Term								
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
CHE201	Mass and Energy Balances	3	2	0	4	5		CHE204	Chemical Engineering Thermodynamics *	2	2	0	3	5	
CHE221	Introduction to Programming for Chemical Engineering*	2	0	2	3	4		CHE206	Fluid Mechanics and Applications	3	0	0	3	5	
CHEM203	Physical Chemistry	3	0	0	3	4		CHE292	Summer Practice I**	0	0	0	0	5	
MATH203	Differential Equations	2	2	0	3	5		CHEM104	Organic Chemistry I**	3	0	2	4	6	
RPRE104	Entrepreneurship and Project Culture	2	0	0	2	3		MATH204	Statistics	3	0	0	3	5	
ATA101	Principles of Atatürk and History of Turkish Revolution I	2	0	0	2	3		ATA1XX	Principles of Atatürk and History of Turkish Revolution II	2	0	0	2	3	
ENG101	English I	3	0	0	3	3		ENG102	English II	3	0	0	3	3	
XXXXXX	Social Elective I	3	0	0	3	5									
Total Credits		20	4	2	23	32		Total Credits		16	2	2	18	32	
YEAR THREE															
5th Term							6th Term								
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
CHE301	Heat Transfer	3	0	0	3	5		CHE310	Mass Transfer	3	0	0	3	5	
CHE307	Chemical Reaction Engineering- I*	2	2	0	3	5		CHE312	Chemical Reaction Engineering- II*	2	2	0	3	5	CHE307
IE211	Engineering Economics	3	0	0	3	4		CHE330	Chemical Engineering Laboratory I*	1	0	4	3	4	
CHEXXX	Departmental Elective I (Project Based)	3	0	0	3	5		CHE392	Summer Practice II**	0	0	0	0	5	
XXXXXX	Social Elective II	3	0	0	3	5		CHEXXX	Departmental Elective II (Project Based)	3	0	0	3	5	
XXXXXX	Field Elective I	3	0	0	3	5		XXXXXX	Social Elective III	3	0	0	3	5	
Total Credits		17	2	0	18	29		Total Credits		12	2	4	15	29	
YEAR FOUR															
7th Term							8th Term								
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
CHE491	Graduation Project*	2	2	0	3	5		CHE492	Graduation Thesis*	1	8	0	5	5	
CHE403	Chemical Process Control	3	0	0	3	5		CHEXXX	Departmental Elective V	3	0	0	3	5	
CHE421	Mathematical Modeling for Chemical Engineering	3	0	0	3	5		CHEXXX	Departmental Elective VI	3	0	0	3	5	
CHE431	Chemical Engineering Laboratory II*	1	0	4	3	4		XXXXXX	Field Elective II	3	0	0	3	5	
CHEXXX	Departmental Elective III	3	0	0	3	5		XXXXXX	Field Elective III	3	0	0	3	5	
CHEXXX	Departmental Elective IV	3	0	0	3	5		OHS402	Occupational Health and Safety II	2	0	0	2	2	
OHS401	Occupational Health and Safety I	2	0	0	2	2									
Total Credits		17	2	4	20	31		Total Credits		15	8	0	19	27	

Total Course Credits for Graduation	155
Total Theoretical Hours	129
Total Applied Course hours	28
Total Laboratory Hours	24
Total Course ECTS for Graduation	241
Total Elective Courses ECTS	60
Elective Course Ratio	25%

* These courses are under the Applied Course status.

** These courses are under the Internship Course status.

Elective Course - Pool															
Code	Departmental Elective Courses	T	U	L	K	ECTS	Prerequisite	Code	Seçmeli Yabancı Diller	T	U	L	K	ECTS	Prerequisite
CHE213	Physical Chemistry Laboratory	0	0	4	3	5		ARB123	Arabic I	3	0	0	3	5	
CHE202	Organic Chemistry - II	3	0	0	3	5	CHEM104	Arabic II	3	0	0	3	5	ARB123	
CHE303	Introduction to Nanotechnology	3	0	0	3	5		CHN123	Chinese I	3	0	0	3	5	
CHE305	Sustainable and Renewable Energy	3	0	0	3	5		CHN124	Chinese II	3	0	0	3	5	CHN123
CHE311	Transport Phenomena in Chemical Engineering	3	0	0	3	5		ESP123	Spanish I	3	0	0	3	5	
CHE314	Separation Processes	3	0	0	3	5		ESP124	Spanish II	3	0	0	3	5	ESP123
CHE323	Introduction to Biological Science - II	3	0	0	3	5		FRN123	French I	3	0	0	3	5	
CHE313	Structural Biology	3	0	0	3	5		FRN124	French II	3	0	0	3	5	FRN123
CHE325	Nanostructured Materials	3	0	0	3	5		GER123	German I	3	0	0	3	5	
CHE306	Fermentation Technology	3	0	0	3	5		GER124	German II	3	0	0	3	5	GER123
CHE308	Data Mining in Chemical Engineering	3	0	0	3	5		RSN123	Russian I	3	0	0	3	5	
CHE405	Biotechnology and Special Applications	3	0	0	3	5		RSN124	Russian II	3	0	0	3	5	RSN123
CHE406	Bioinformatics for Engineers	3	0	0	3	5									
CHE408	Special Topics in Chemical Engineering	3	0	0	3	5									
CHE409	Principles and Practice of Drug Development	3	0	0	3	5									
CHE414	Drug Design	3	0	0	3	5									
CHE416	Protein Engineering for Chemical Engineers	3	0	0	3	5									
CHE461	Petroleum Refinery Engineering	3	0	0	3	5									
CHE462	Natural Gas Engineering	3	0	0	3	5									
CHE463	Petrochemical Technology	3	0	0	3	5									
CHE465	Photocatalysis	3	0	0	3	5									
CHE321	Fundamentals of Biochemistry	3	0	0	3	5									
CHE451	Water Treatment Technology	3	0	0	3	5									
CHE471	Polymer Technology	3	0	0	3	5									
CHE446	Material Science and Engineering	3	0	0	3	5									
CHE447	Catalysis and Catalytic Processes	3	0	0	3	5									
CHE448	Instrumental Analysis	3	0	0	3	5									
CHE449	Engineering Thermodynamics	3	0	0	3	5	CHE204								
CHE453	Chemical Technology	3	0	0	3	5									
CHE455	Gas Purification Technology	3	0	0	3	5									
CHE457	Recycling Technology	3	0	0	3	5									
CHE450	Energy Management	3	0	0	3	5									
CHE433	Chemical Engineering Design - I	3	0	0	3	5									
CHE434	Chemical Engineering Design - II	3	0	0	3	5	CHE433								

Field Elective Courses

For Field Elective courses, any departmental elective course having appropriate credits from other departments of Faculty of Engineering and Natural Sciences can be elected.

Social Elective Courses

For Social Elective courses, either foreign language course or course having appropriate credits from other faculties can be elected.

Important notes to be taken into consideration before registrations

- Both chemical and chemical & biological engineering students will follow the same program, starting from Fall 2020-2021.
- Major and minor applications will only be accepted towards chemical engineering.