

Chairman

Dr. Saeed Gul Ph.D. (Austria)

Associate Professor

Dr. Muhammad Younas Ph.D. (France)

Assistant Professors

Engr. Imran Khan Swati M.Sc. (Pak)
 Engr. Nehar Ullah M.Sc. (Pak)
 Dr. Muddasar Habib Ph.D. (UK)
 Dr. Jamil Ahmad Ph.D. (Norway)
 Dr. M. Imran Ahmad Ph.D. (UK)
 Dr. Asmatullah Ph.D. (UK)

Lecturers

Engr. Sultan Ali M.Sc. (Pak)
 Engr. Hayat Khan M.Sc. (S.Korea)
 Engr. Irshad Ali Ph.D. (Canada)
 Engr. Naseer Ahmad Khan M.Sc. (Pak)
 Engr. S. Naveed-ul-Hassan M.Sc. (Pak)
 Engr. Ammad Ullah Khan M.Sc. (Pak)
 Engr. Qurat-ul-Ain M.Sc. (Pak)
 Engr. Muhammad Daud M.Sc. (Pak)
 Engr. Mansoor-ul-Hassan M.Sc. (Pak)
 Engr. Saira Bano M.Sc. (Pak)
 Engr. Muhammad Irfan M.Sc. (Pak)
 Engr. Unsia Habib M.Sc. (Pak)
 Engr. Amir Muhammad M.Sc. (Pak)
 Engr. Wajid Ali M.Sc. (Pak)

Lab Engineer

Engr. Abdul Hai B.Sc (Pak)
 Engr. Amir Naveed B.Sc (Pak)
 Engr. Murtaza Khan B.Sc (Pak)

Department of Chemical Engineering

Chemical Engineering is the branch of engineering, which blends the knowledge of basic sciences with engineering to develop, design, analyze and engineer the industrial processes and plants that turn raw materials into valuable products. These processes must be accomplished in safe, cost effective and sustainable manner to create products, which are useful and essential to the modern world. Chemical Engineering is based upon the fundamentals of mass, momentum, and heat transfer, thermodynamics and chemical kinetics. Chemical engineers are equipped with the necessary skills that encompass detailed understanding of all aspects of design, testing, scale-up, operation, control, and optimization of different unit operations. They are familiar with many industries such as petroleum and petrochemicals, plastics, fibers, paper, food processing, building materials, water desalination and pharmaceuticals. A Chemical engineering degree is also a good preparation for careers in pollution prevention and waste minimization.

Academic Programmes

- B.Sc Chemical Engineering
- M.Sc Chemical Engineering
- Ph.D Chemical Engineering

Research Facilities

Chemical Engineering Department offers state-of-the-art equipment and high-tech laboratories to facilitate the undergraduate and postgraduate students in lab work and research projects to acquire the understanding of various chemical processes by providing small-scale units and simulated industrial works environment.

Chemical Engineering Department helps equip students with practical knowledge and troubleshooting skills through its various computer-controlled upto-date laboratories such as Chemical Process Technology, Chemical Reaction Engineering, Chemistry, Environmental Engineering, Fluid Flow, Fuel and Combustion, Heat Transfer, Instrumentation and Control, Mass Transfer, Particle Technology, Simultaneous Heat & Mass

Transfer (SHMT), and Thermodynamics Laboratories.

Practical Training

Apart from academic activities, students are required to complete 800 hours of practical training as part of the B.Sc. Chemical Engineering Degree. This practical training is arranged during summer vacations in various national and international organizations and chemical industries. The major fields of interest are petroleum refinery, gas processing, petrochemical, polymer, sugar, fertilizer, cement, glass, ceramic and other process industries. This training also helps students in the selection of their final year projects for addressing existing field oriented problems.

Industrial Visits

The Department is in close contact with government departments and private chemical industries. Field visits to chemical industries are arranged ranging across the whole country. Such field visits are found very helpful in broadening the vision of the students in the field of Chemical Engineering.

Placement Opportunities

There is a broad range of employment opportunities for Chemical Engineers, from large multi-national companies to small locally based companies, e.g. refineries, oil and gas fields, fertilizer industries, cement plants, ceramic and pharmaceutical industries.

Graduates of this department are recognized as amongst the country's finest Chemical Engineers. The Department has so far produced more than 500 engineers; most of them are holding responsible positions in public and private organizations of national and international repute.



Scheme of Studies

Semester 1		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
BSI-111	Linear Algebra	3	0	3
ChE-111	Applied Chemistry-I	3	0	3
ChE-111L	Applied Chemistry-I Lab.	0	3	1
BSI-181	Applied Physics	3	0	3
BSI-181L	Applied Physics Lab.	0	3	1
BSI-142	English Composition and Comprehension	3	0	3
ChE-120	Chemical process Industries-I	3	0	3
Total Contact Hours		15	6	
Total Credit Hours		15	2	17

**Any course outside the department

Semester 3		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
ChE-211	Chemical Process Principles-II	3	0	3
BSI-221L	Programming Skills Lab	0	3	1
ChE-231	Particle Technology	3	0	3
ChE-231L	Particle Technology Lab.	0	3	1
BSI-231	Differential Equations	3	0	3
ChE-242	Fluid Mechanics-I	2	0	2
EE-210	Electrical Engineering	2	0	2
EE-210L	Electrical Engineering Lab.	0	3	1
BSI-110	Pakistan Studies	2	0	2
Total Contact Hours		15	9	
Total Credit Hours		15	3	18

Semester 5		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
ChE-311	Chemical Engineering Thermodynamics-II	3	0	3
ChE-342	Technical Report writing and communication skills	1	3	2
ChE-371	Heat Transfer-I	2	0	2
ChE-371L	Heat Transfer Lab	0	3	1
BSI-242	Numerical Analysis	3	0	3
ChE-381	Mass Transfer-I	2	0	2
ChE-262	Energy Engineering	3	0	3
ChE-262L	Energy Engineering Lab.	0	3	1
BSI-120	Professional Ethics	2	0	2
Total Contact Hours		16	9	
Total Credit Hours		16	3	19

Semester 7		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
ChE-402	Industrial Management	3	0	3
ChE-411	Instrumentation & Process Control	3	0	3
ChE-411L	Instrumentation & Process Control Lab.	0	3	1
ChE-431	Project-I	0	9	3
ChE-441	Environmental Engineering	3	0	3
ChE-441L	Environmental Engineering Lab.	0	3	1
ChE-451	Chemical Plant Design	3	0	3
Total Contact Hours		12	15	
Total Credit Hours		12	5	17

Semester 2		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
ChE-112	Chemical Process Principles-I	3	0	3
BSI-122	Calculus	3	0	3
ChE-122	Applied Chemistry-II	3	0	3
ChE-122L	Applied Chemistry-II Lab.	0	3	1
BSI-101	Islamic Studies	2	0	2
ChE-142L	Computer Fundamentals Lab.	0	3	1
BSI-143	Communication & Presentation Skills	3	0	3
ME-106	Engineering Workshop	0	3	1
Total Contact Hours		14	9	
Total Credit Hours		14	3	17

Semester 4		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
ChE-222	Chemical Engineering Thermodynamics-I	3	0	3
ChE-212	Engineering Materials	3	0	3
ChE-243	Fluid Mechanics-II	2	0	2
ChE-232L	Fluid Mechanics Lab.	0	3	1
ChE-241	Chemical Process Industries-II	3	0	3
ChE-241L	Chemical Process Industries-II Lab.	0	3	1
ME-104	Engineering Drawing & CAD	2	3	3
ChE-222L	Chemical Engg. Thermodynamics Lab	0	3	1
Total Contact Hours		13	12	
Total Credit Hours		13	4	17

Semester 6		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
ChE-322	Chemical Reaction Engineering	3	0	3
ChE-322L	Chemical Reaction Engineering Lab.	0	3	1
ChE-352	Statistics & Experimental Design	2	0	2
ChE-401	Safety & Maintenance Engineering	2	0	2
ChE-382	Mass Transfer-II	2	0	2
ChE-382L	Mass Transfer Lab.	0	3	1
ChE-341	Engineering Economics	2	0	2
ChE-361	Department Elective-I	3	0	3
ChE-372	Heat Transfer-II	2	0	2
Total Contact Hours		16	6	
Total Credit Hours		16	2	18

Semester 8		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
ChE-412	Simultaneous Heat & Mass Transfer	3	0	3
ChE-412L	Simultaneous Heat & Mass Transfer Lab.	0	3	1
ChE-422	Transport Phenomena	3	0	3
ChE-432	Project-II	0	9	3
ChE-442	Department Elective-II	3	0	3
ChE-452	Process Design & Simulation	2	3	3
Total Contact Hours		11	15	
Total Credit Hours		11	5	16

Total Credit Hours= 139

Electives: Polymer Engineering, Petroleum Refining Engineering, Novel Separation Processes, Renewable Energy Resources, Bio-Chemical Engineering, Gas Dynamics, Gas Engineering, Food Processing, Introduction to Nano Technology, Process Analysis & Optimization, Petrochemicals, Risk Management & Safety, Waste Management, Industrial Energy Systems, Mineral Processing.

Courses from other Disciplines of Engineering can also be offered in place of Department Elective-I.