

Department of Chemistry

Program Offered:

Master of Philosophy in Chemistry

Vision

The Department of Chemistry, the sole department of chemical sciences in private sector was established in year 2009 at Sarhad University of Science & IT, a highest ranked public university of KPK. The Department strives to be a nationally-recognized model for educating and graduating scholars prepared to contribute to boosting up the socio economic growth of the country and to compete the ever-changing and globally emerging technologies of the 21st century. We also endeavor to contribute to a chemical literate society through teaching (with classrooms, labs, and research).

Mission

The mission of the Department of Chemistry is to advance the chemical sciences through educating graduate and postgraduate scholars by providing them with well-furnished classrooms well equipped labs and state of the art equipment's. The Department provides rigorous preparation of citizens whose career paths require expertise in chemistry.

In support of our mission the Chemistry Department faculty members are committed to:

1. Supervise and guide graduate & postgraduate scholars in undertaking their R& D projects.
2. Provide scholars with educational and research opportunities between chemistry and other fields of study.
3. Promote innovative curriculum and exposing scholars to advanced instrumentation and emerging technology.
4. Meet the challenges that our graduates are likely to face throughout their professional careers and to provide with highly-developed skills in lifetime learning, planning, problem-solving, communication and leadership

Master of Philosophy in Chemistry

Minimum Duration : 4 Semesters, 2 Years
 Maximum Duration : 8 Semesters, 4 Years
 Minimum CGPA required to earn degree 2.50

Program Code 017
 Number of Courses 09
 Credit Hours 32

Eligibility

BS/Master in Chemistry with 16 years of education with at least 2.00 CGPA out of 4.00 in Semester system or at least 50% marks in annual system.

Applicants need to qualify either GAT(General) Test to be conducted by NTS/ETEA/any Registered Testing Agency or University, with at least 50% cumulative score test and to appear in departmental interview at the time of admission.

Program Objectives:

The objectives of the program are to:

- ▲ Impart a sound knowledge of chemistry to scholars and to help them to use this knowledge creatively and analytically.
- ▲ Develop awareness and applications of chemistry regarding its practical, social and economic aspects such as health, agriculture, industry and defense.
- ▲ Upgrade and improve scholar's talent to compete the present global scenario of applied research as well as utilize it in the economical and industrial growth of the country.

Select any three Courses

SEMESTER ONE	Course Code	Course Title	Cr. Hrs. 9
	CH 529	Advanced Analytical Chemistry	3-0
	CH 513	Group Theory and Its Applications in Chemistry	3-0
	CH 510	Nuclear Magnetic Resonance in Organic Chemistry	3-0
	CH 514	Chemical Kinetics	3-0
	CH 516	Statistical Treatment of Experimental Data Elective I	3-0

Select any three Courses

SEMESTER TWO	Course Code	Course Title	Cr. Hrs. 9
	CH 520	Special Topics in Organic Chemistry	3-0
	CH 523	Bio-inorganic Chemistry	3-0
	CH 527	Special Topics in Inorganic Chemistry	3-0
	CH 524	Biochemistry of Macromolecules	3-0
	CH 525	Advanced Analytical and Instrumental Techniques Elective-II	3-0

SEMESTER THREE	Course Code	Course Title	Cr. Hrs. 8
	RES 581	Research Methodology	2-0
	Select any two courses		
	CH 534	Advanced Coordination Chemistry	3-0
	CH 536	Advanced Biochemistry	3-0
	CH 537	Environmental Chemistry Elective-III	3-0

SEMESTER FOUR	Course Code	Course Title	Cr. Hrs. 6
	RES 690	Research Thesis	0-6

Program Outcomes:

The MPhil Program gives scholar a unique opportunity to learn about applied research, making scholars well-equipped to work in various fields of academics and industry nurturing talent and achievement. This program integrates the essential knowledge which is incorporated professionally into scholar. The program is intended for scholars interested in pursuing careers in the industrial and education sector. Both international and national organizations working on these sectors actively seek candidates with such academic background. There is emphasis in this program on possession of credentials demonstrating the acquisition of skills necessary for achievements in various fields. The scholars are subjected to skilled training in order to prepare them for competency in future. The program thus prepares scholars for both further research and jobs in a variety of sectors, including advisory organizations, aid programs, planning and policy, resource management, teaching and research. These programs are intended to provide skilled researcher with innovative ideas leading to the development of nations. These skills are necessary to compete with other nations in field of science and technology

List of Approved Courses for M.Phil Core Courses

Course Code	Course Title	Cr. Hrs.
CH 511	Mass Spectrometry	3-0
CH 512	Natural Products Chemistry	3-0
CH 515	Quantum Chemistry	3-0
CH 517	Inorganic Spectroscopy	3-0
CH 518	Advanced Nuclear and Radiation Chemistry	3-0
CH 519	Mathematics for Chemists	3-0
CH 521	Advanced Stereochemistry	3-0
CH 522	Modern Trends in Organic Synthesis	3-0
CH 526	Surface Chemistry	3-0
CH 528	Inorganic Electronic Spectroscopy	3-0
CH 530	Physico-Organic Chemistry and Reaction Mechanism	3-0
CH 531	Reactive Intermediates in Organic Chemistry	3-0
CH 532	Instrumental Methods of Analysis	3-0
CH 533	Special Topics in Physical Chemistry	3-0
CH 535	Chemistry of Advanced Materials	

Electives

Course Code	Course Title	Cr. Hrs.
CH 637	Water and Solid Chemistry	3-0
CH 638	Special Topics in Analytical Chemistry	3-0
CH 639	Bio-techniques	3-0
CH 611	Biophysical Chemistry	3-0
CH 612	Chemical Thermodynamics	3-0
CH 613	Modern Chromatographic Techniques	3-0
CH 614	Enzyme Kinetics	3-0
CH 615	Enzymology	3-0
CH 616	Clinical Chemistry	3-0
CH 622	Molecular Spectroscopy	3-0
CH 631	Radiation Chemistry	3-0
CH 632	Statistical Thermodynamics	3-0