

Department of Chemistry



Incharge: Dr. Nargis Jamila

Welcome to the Department of Chemistry!

Chemistry department is a flourishing and inclusive community that fosters a female-friendly environment for aspiring scientists. Here, we inspire and enable our students to unleash their potential and embark on a journey of discovery in Chemistry.

Here we value diversity and equality. The faculty of Department of Chemistry consist of accomplished, dedicated, and renowned expert female scientists and educators, who work harder to nurture your academic growth, instill the passion for research, encourage your quest, and guiding you in becoming the next generation of visionary chemists with a focus on real-world applications.

Through our dynamic curriculum and cutting-edge research opportunities, you will uncover the secrets of molecules and elements, gaining invaluable insights that have a profound influence on humanity's well-being and the environment.

As a student at our Department, you will have access to our laboratories where you can work on innovative research ideas in the guidance and supervision of the faculty. You will find opportunities to engage in co-curricular activities, attend seminars, conferences, trainings, and collaboration with other universities, which will enrich your academic career.

The skills set and the knowledge you will get here, will prepare you for a career in academia, industry, research, or anywhere your passion takes you to.

We invite you to be a part of our community where you can grow and bring a real change through the wonders of chemistry. Let's create a world where our innovations will bring a solution to the modern day problems our country and the world at large is facing as scientific discovery knows no boundaries.

We eagerly await your arrival in our Chemistry Department!

Vision

To provide quality education to women, and, to educate and train them in chemical sciences and research. This education will not only increase their knowledge but also empower them to contribute to the development of the country.

Mission

The Department of Chemistry aims to;

- Provide a learning environment, which enables the students to obtain a strong foundation of chemistry knowledge, laboratory skills, and problem-solving abilities at levels appropriate for the variety of students.
- Produce a new generation of professionals in chemical sciences, whose skills developed in the institution will certainly support them to the road of success, and to become leaders either in research, teaching, or industry.
- Maintain the faculty with a wide variety of professional interests representing all areas of chemistry. This supports classes and research opportunities, which covers the entire spectrum of chemistry.
- Remain equipped with modern chemical instrumentation, so that students learn to use the tools of the Chemists' trade.

Mission Statement of Programs

The Mission of programs is to;

- Advance the knowledge of graduate/postgraduate students in "Chemical Sciences" by providing them quality education.
- Develop laboratory and research skills in the students via introducing them to the advances in chemistry at the local and global level and research methods.
- Lead the graduates of the department towards service opportunities, and to help building a civilized society.

Program Objectives

Objectives of (undergraduate/graduate/postgraduate) programs are to;

1. Introduce chemical sciences to women scholars, and to produce tomorrow's leaders
2. Educate scholars to inventions & innovations and their diverse applications
3. Meet with the local and global challenges in chemical sciences through teaching and research
4. Prepare knowledgeable graduates to meet with the market demand
5. Develop a sense of social responsibilities via community services for the uplift of society

Faculty

- Dr. Nargis Jamila (Organic Chemistry), PhD (Malaysia) Post Doctorate (South Korea)
- Dr. Rozina Khattak, (Physical Chemistry) PhD (Pakistan)
- Dr. Aaliya Minhaz, PhD (Environmental Chemistry) (Pakistan)
- Dr. Fatima Javed, (Inorganic Chemistry) PhD (Pakistan), Post Doctorate (Malaysia)
- Dr. Naheed Bibi (Inorganic Chemistry), PhD (Brazil)
- Dr. Zahida Wasil (Organic Chemistry), PhD (UK), Post Doctorate (Denmark)

- Dr. Hajera Gul (Physical Chemistry), PhD (Pakistan)
- Dr. Fatima Khitab (Analytical Chemistry), PhD (Pakistan)
- Dr. Shagufta Rasool (Organic Chemistry), PhD (Pakistan)
- Dr. Asma Nasrullah (Physical Chemistry), PhD (Malaysia)
- Dr. Tasmia (Analytical Chemistry), PhD (Pakistan)
- Dr. Bushra Begum (Physical Chemistry, visiting faculty), PhD (Pakistan)
- Dr. Raina Aman Qazi (Physical Chemistry, visiting faculty), PhD (Pakistan)
- Ms. Mamoonah Alam (Inorganic Chemistry), MPhil (Pakistan), PhD in progress (Pakistan)
- Ms. Ruqia Bibi (Organic Chemistry), MPhil (Pakistan)
- Ms. Sadia Habib (Physical Chemistry), MPhil (Pakistan), PhD in progress (China)

Programs Offered

Department of Chemistry offers

- BS (04-year, 08-semesters) Analytical, Inorganic, Organic, and Physical Chemistry
- MSc (02-year, 04-semesters) Analytical, Inorganic, Organic, and Physical Chemistry
- MPhil (02-year, 04-semesters) Analytical, Inorganic, Organic, and Physical Chemistry
- PhD (Launching in progress)

Scheme of Studies

BS (04-year, 08-semesters)

Course Code	Course Title	Credit Hours
Semester – I		
ENG-301	English-I	3
ISL-301	Islamic Studies/Ethics	2
PHY-301	Mechanics-I	3 (2 + 1)
MTH-303	Basic Mathematics	3
CSC-301	Introduction to Information and Communication Technologies	3 (2 + 1)
CHM-311	Fundamental Inorganic Chemistry	4 (3 + 1)
Total:		18
Semester – II		
ENG-302	English-II	3
PST-323	Pakistan Studies (Compulsory)	2
PHY-305	Introductory Electricity and Magnetism	3
MTH-305	Mathematics-II	3
CSC-302	Programming Fundamentals	4 (3 + 1)
CHM-312	Fundamental Physical Chemistry	4 (3 + 1)
Total:		19
Semester – III		
STAT-301	Fundamentals of Statistics	3
ENG-410	English-III	3

MTH-402	Analytical Geometry	3 (2+1)
CHM-402	Environmental Chemistry	4 (3 + 1)
CHM-411	Fundamental Organic Chemistry	4 (3 + 1)
Total:		17
Semester – IV		
BCHM-311	Principles of Biochemistry	3 (2 + 1)
BIO-401	Essentials of Biology	3
STAT-407	Applications of Statistics	3
CHM-404	Fundamental Applied Chemistry	4 (3+1)
CHM-413	Fundamental Analytical Chemistry	4 (3 + 1)
Total:		17
Semester – V		
CHM-511	Analytical Chemistry-I **/Biochemistry-I/Applied Chemistry-I	4 (3 + 1)
CHM-512	Inorganic Chemistry-I	4 (3 + 1)
CHM-513	Organic Chemistry-I	4 (3 + 1)
CHM-514	Physical Chemistry-I	4 (3 + 1)
Total:		16
Semester – VI		
CHM-515	Analytical Chemistry-II **/Biochemistry-II/Applied Chemistry-II	4 (3 + 1)
CHM-516	Inorganic Chemistry-II	4 (3 + 1)
CHM-517	Organic Chemistry-II	4 (3 + 1)
CHM-518	Physical Chemistry-II	4 (3 + 1)
Total:		16
Semester – VII & VIII: Specialization Courses		

MPhil (02-year, 04-semesters)

Course Work	
Course	Credit Hours
Semester – I	
*Course 1 (Green Chemistry)	3
Course 2	3
Course 3	3
Course 4	3
Total	12
Semester – II	
*Course 1 (Research Methodologies)	3
Course 2	3
Course 3	3

Course 4	3
Total	12
Research Work	
Semester – III & IV	06
Research, Thesis, and Viva Voce Exam	

PhD (03-08 year)

Course Work	
Course	Credit Hours
Semester – I	
*Specialization Course 1	3
Specialization Course 2	3
**Elective Course 1	3
***Non-Credit Course 1	0
Total	9
Semester – II	
Specialization Course 3	3
Specialization Course 4	3
Elective Course 2	3
Non-Credit Course 2	0
Total	9
Semester–III to semester-VI	
Research, Thesis, and Viva Voce Exam	9

Research Laboratories

Four (04) Laboratories equipped with High performance liquid chromatography, UV-Visible spectrophotometer, Rotary evaporators, Potentiostat, Conductivity meters, pH meters, Overhead stirrer, Furnace, Ultrasonicator, Distillation Plants, Weight Balances, Water Baths, Autoclave, Centrifuges, Essential oil assemblies, filtration assemblies, Hotplates, Heating mantles, all basic glassware, all basic chemicals/reagents

Career Opportunities to Chemistry Graduates

The prospects for chemists are diverse and promising. With a degree in Chemistry, you can embark on rewarding careers as educator/faculty, chemist, analyst, pharmacist, research officer, and so many more. Several industries such as pharmaceuticals, textile, food, cosmetics, environmental management, renewable energy, and sustainable technologies eagerly welcome chemists, providing ample opportunities to make a positive impact on society.

“Discover your potential, contribute to a brighter future, and be a part of the transformation that shapes our world for the better.”

Department’s Research Activities



Study/Research Visits

PCSIR Laboratories



NCE in Physical Chemistry



USPCASE, UET



NIFA Peshawar



Qarshi Industries



Zainoon Industries



Academic/Co-curricular Activities



Social Work



Research Projects Awarded

Fifteen (15) research projects have been awarded to the faculty and students of the Department of Chemistry by Higher Education Commission (Pakistan), Directorate General of Science and Technology, Khyber Pakhtunkhwa (Pakistan), and the SBBWU research grants.

Department's Awards

- Best Department Award 2019
- Best Department Award 2020
- Best Department Award 2021
- Dr. Nargis Jamila (Best Teaching Appreciation Letter from Vice-Chancellor 2018)
- Dr. Nargis Jamila (Best University Teacher Award 2019)
- Dr. Nargis Jamila (Best HEC's University Teacher Award 2021)
- Dr. Nargis Jamila (Research Excellence, Commendation Award 2017-2019)
- Dr. Rozina Khattak (Best Researcher Award 2018)
- Dr. Rozina Khattak (Best Researcher Award 2021)

Contact Details

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