



**FORMAN  
CHRISTIAN  
COLLEGE**  
(A CHARTERED UNIVERSITY)

## Department of Biological Sciences

The Biological Sciences Department was founded in 1870. Distinguished professors, including Dr Saithi, Dr Purio, Dr HK Bhatti and Dr KK Bell, have made significant contributions to the Department and the field of Biological Sciences. In recent years the Department has taken great strides forward.

At the undergraduate level, 4-year degree program in Biotechnology and majors in Biological Sciences and Bioinformatics are offered. The Department launched MPhil Biotechnology program in 2009. Following the success of the 4-year BS Biotechnology program and the 2-year MPhil Biotechnology program, an important step forward was taken by launching MPhil programs in Food Safety and Quality Management and Molecular Pathology and Genomics as well as a PhD program in Biotechnology. This has been possible due to the highly qualified faculty. The Department has several ongoing research programs and the faculty has been able to win competitive research grants worth more than Rs 120 million for conducting goal-oriented research.

**Merit-based financial awards  
available only in MPhil programs**

**PEEF scholarships available  
for eligible students only in MPhil programs**

## MPhil Biotechnology

MPhil Biotechnology is a two-year program consisting of 2 semesters of coursework followed by two semesters of research. This is a rigorous program that is supported by modern infrastructure such as six dedicated research and four teaching laboratories with state-of-the-art equipment.

### Admission Criteria

- A 4-year BS (Hons) degree or equivalent from an HEC-recognized university in any of the life sciences including: Biotechnology, Biochemistry, Botany, Zoology and Medical Lab Technology
- Minimum CGPA of 2.50 or a 1st division (60% marks) in the last awarded degree
- In case of the BS (Hons) degree, 130 credit hours should be completed

## PhD Biotechnology

PhD Biotechnology is a three-year degree program that can be extended further as per policy. The program consists of 2 semesters of coursework of 18 credit hours followed by a minimum of 4 semesters of research of 12 credit hours. In the first year, students have to complete 18 credit hours coursework, which is followed by a Comprehensive Examination. The student is expected to carry out original research work under the supervision of a faculty member (who is an HEC-approved supervisor) from the Department. The Department of Biological Sciences is equipped with many state-of-the-art research facilities and has active collaboration with several medical laboratories, research institutes and universities.

### Admission Criteria

- Minimum CGPA 3.0 (out of 4.0) in the semester system or first division in the annual system in MPhil/MS/equivalent in any area related to life sciences
- Passing a subject test conducted by the National Testing Service (NTS) or ETS (USA) in the area of specialization chosen at the PhD level
- In the case of GAT subject test, a minimum of 60% marks are required
- In the case of GRE subject test, a minimum of 60% score is required
- Passing an interview conducted by the PhD admission committee
- The candidate will submit a research statement along with the admission application

## Salient Features of the Biotechnology Program

- Collaboration with various national institutes
- Research being offered in Agriculture Biotechnology, Health Biotechnology, Microbiology, Food Biotechnology and Proteomics
- State-of-the-art laboratory facilities
- The courses offered are in accord with the international curriculum
- All faculty members hold PhD degrees

## Research Collaborations

- Centre of Agricultural Biochemistry and Biotechnology (CABB), University of Agriculture, Faisalabad
- Chughtai Laboratories
- Fatima Memorial System, Lahore
- National Agricultural Research Centre (NARC), Islamabad
- National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad
- Jinnah Hospital, Lahore
- Punjab Agriculture Research Board
- Pakistan Council of Scientific and Industrial Research (PCSIR) Laboratories Complex, Lahore
- The University of California, Davis, USA
- University of Health Sciences, Lahore
- University of Nebraska Medical Center, USA
- University of the Punjab, Lahore
- Zeenat Laboratories, Lahore

## MPhil Food Safety and Quality Management

Access to safe, wholesome and nutritious food is a fundamental human right. Nevertheless, food systems in developing countries continue to be stressed due to lack of capacity to deal with pre- and post-harvest losses. This combined with increase in population, migration, urbanization, lack of resources and problems of environmental and food hygiene adversely affect quality and safety of food supplies in most parts of Pakistan.

FCCU's resources and cross-disciplinary expertise in the fields of Food Sciences, Biotechnology, Chemistry and Business make it an ideal institution to offer an MPhil program in Food Safety and Quality Management (FSQM) to cater to the needs of the food industry, government sector, regulatory bodies and other sectors including new businesses.

## NOTE

Acceptance to the PhD program is based upon the

- 1) GAT/GRE Score
- 2) interview and
- 3) an overall evaluation of the candidate, including: academic achievement, research statement and English language proficiency

Provisional admission can be sought by students awaiting final results. Their admission will only be confirmed once they have submitted their complete official Transcript and GAT/GRE Score within the due dates.

## Salient Features

- As an evening program, MPhil Food Safety and Quality Management allows in-service professionals to benefit from this cross-disciplinary degree
- Our partner organization, PCSIR Laboratories Lahore, is one of the largest government laboratories in Pakistan. FCCU's MoU with PCSIR Laboratories Lahore, means that PCSIR's expertise can also be used by students to help with research and internships
- Collaboration with national institutes
- Research being offered in vast domains of food safety issues, current and future safety challenges, supply chain management, food quality guidelines and regulatory frameworks
- State-of-the-art laboratory facilities
- The courses offered are in accord with the international curriculum
- All faculty members hold PhD degrees

## Research Collaborations

- Pakistan Council of Scientific and Industrial Research (PCSIR) Laboratories Complex, Lahore

## Admission Criteria

- A 4-year BS (Hons) degree or equivalent from an HEC-recognized university in any of the life sciences including: Food Technology, Agriculture and Nutrition Sciences, Biosciences, Biotechnology, Biochemistry and DVM
- Minimum CGPA of 2.50 or a 1st division (60% marks) in the last awarded degree
- In case of the BS (Hons) degree, 130 credit hours should be completed

## MPhil Molecular Pathology and Genomics

Molecular pathology is a rapidly expanding discipline that connects pathology and molecular biology. The future of medicine and clinical diagnostics is molecular based.

MPhil Molecular Pathology and Genomics (MPGN) program provides training in the application and interpretation of advanced molecular technologies and their use in pathology and clinical diagnostics. This specialist training enables physicians, scientists and technologists to validate, use and develop molecular assays for improved management of patients.

## NOTE

Acceptance to the aforementioned three MPhil programs is based upon the

- 1) departmental test
- 2) interview and
- 3) an overall evaluation of the candidate, including: academic achievement, statement of purpose and English language proficiency

Provisional admission can be sought by students awaiting final results. Their admission will only be confirmed once they have submitted their complete official Transcript within the due dates.

## Salient Features

- As an evening program, MPhil Molecular Pathology and Genomics allows in-service professionals to benefit from this degree
- Our partner organization, Chughtai Laboratories Lahore, is one of the largest private clinical diagnostic laboratories in Pakistan and provides clinical and practical expertise
- Collaboration with national and international institutes
- Research being offered in vast domains of medical field ranging from infectious diseases, oncology, neurological disorder, etc
- State-of-the-art laboratory facilities
- The courses offered are in accord with the international curriculum
- All faculty members hold PhD degrees

## Research Collaborations

- Chughtai Laboratories
- Fatima Memorial System, Lahore
- Jinnah Hospital, Lahore
- The University of California, Davis, USA
- University of Health Sciences, Lahore
- University of Nebraska Medical Center, USA
- University of the Punjab, Lahore
- Zeenat Laboratories, Lahore

## Admission Criteria

- A 4-year BS (Hons) degree or equivalent from an HEC-recognized university in any of the life sciences including: Biosciences, Biotechnology, Biochemistry, Nutrition Sciences and Medical Lab Technology
- MBBS students who have completed six years of medical school and are currently engaged in a pathology residency program may also apply
- Minimum CGPA of 2.50 or a 1st division (60% marks) in the last awarded degree
- In case of the BS (Hons) degree, 130 credit hours should be completed



## Faculty

**Dr Samina Mehnaz**

Professor and Chairperson  
PhD (Quaid-i-Azam University, Islamabad)

**Dr Kauser Abdulla Malik HI, SI, TI**

HEC-Distinguished Professor and Dean of  
Postgraduate Studies  
PhD (University of Aston, UK)

**Dr Mian Wajahat Hussain**

Professor and Controller of Examinations  
PhD (University of Florida, USA)

**Dr Aftab Bashir**

Professor  
PhD (University of Illinois, USA)

**Dr Muhammad Arslan**

Distinguished Professor  
PhD (University of Wisconsin, USA)

**Dr Syed Sarfraz Hussain**

Professor  
PhD (Punjab University, Lahore)

**Dr M Rehan Siddiqi**

Professor Emeritus  
PhD (Miami University, USA)

**Dr Zaffar Mehmood**

Associate Professor  
PhD (University of Queensland, Australia)

**Dr Khalid Zamir Rasib**

Associate Professor  
PhD (Punjab University, Lahore)

**Dr Aisha Saleem Khan**

Associate Professor  
PhD (Punjab University, Lahore)

**Dr Asma Maqbool**

Associate Professor  
PhD (Punjab University, Lahore)

**Dr Muhammad Irfan**

Associate Professor  
PhD (Punjab University, Lahore)

**Dr Deeba Noreen Baig**

Associate Professor  
PhD (Punjab University, Lahore)

**Dr Muhammad Zubair**

Associate Professor  
PhD (Punjab University, Lahore)

**Dr Muhammad Imran**

Assistant Professor  
PhD (University of Manchester, UK)

**Dr Adnan Arshad**

Assistant Professor  
PhD (University of Paris, France)

**Dr Muhammad Mustafa**

Assistant Professor  
PhD (Yonsei University, South Korea)

**Dr Haroon Sheikh**

Assistant Professor  
PhD (University of Western Ontario,  
Canada)

**Dr Maira Janjua**

Assistant Professor  
PhD (Université de Lorraine, France)

**Dr Bilal Sadiq**

Assistant Professor  
PhD (Asian Institute of Technology,  
Thailand)

**Dr Saba Butt**

Assistant Professor  
PhD (Punjab University, Lahore)

**Dr Syed Farhat Ali**

Assistant Professor  
PhD (Punjab University, Lahore)

**Dr Ibatsam Khokhar**

Assistant Professor  
PhD (Punjab University, Lahore)

**Dr Rana Salman Anjum**

Assistant Professor  
PhD (University of Agriculture, Faisalabad)

Parents and prospective students are welcome to visit the Admissions Office, Room No 009,  
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