



BIOLOGY

MS AND PhD PROGRAMMES

ADMISSION CRITERIA

Admission is purely merit-based and rests solely on the following criteria:

- Academic record
- GRE or LUMS Graduate Admission Test performance*
- Interview performance (if called)

* For admission test details, visit <https://admission.lums.edu.pk/graduate-programmes>

FINANCIAL SUPPORT

- Loan Options
- Merit Scholarships
- External Scholarships (if available)
- Teaching Assistantships (if available)
- 100% Scholarship for PhD Students
- Generous Tuition Fee Waiver for all MS Basic Sciences Students

* For details, visit <https://financial-aid.lums.edu.pk>

Lahore University of Management Sciences (LUMS)

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SYED BABAR ALI SCHOOL OF SCIENCE AND ENGINEERING (SBASSE)

Why Biology?

Recent advances in the study of Biology have brought the subject to the forefront of contemporary sciences, integrating it with numerous disciplines. This has led to the emergence of new areas of study and research such as Molecular Biology, Cell and Developmental Biology, Computational Biology, Mathematical Modelling of Biological Processes, Diseases, Biophysics and Systems Biology. All these are in the realm of SBASSE's Biology programme.

PROGRAMMES OFFERED MS | PhD

DID YOU KNOW?



Our specialised laboratories have established **Arabidopsis, Fruit Flies, Mammalian Cells as model systems**



We have a dedicated **High Performance Computing (HPC) facility housed within the Bioinformatics Research Laboratory**



Our laboratories have **state-of-the-art facilities and equipment**

RESEARCH OPPORTUNITIES

- Students pursue independent research supervised by faculty members engaged in basic as well as translational research
- An extensive menu of topics like Cancer Cell Signalling, Plant Immunity, Structural Biology related to viruses, Bacterial Pathogenesis and Diabetes, Epigenetics, Genome Evolution, Bioinformatics and Virology is offered
- Students may also design research projects in other (or newly emerging) areas after consulting with relevant expert faculty

CAREER OPPORTUNITIES

- Biology students are placed at universities like Harvard University, Cornell University, Yale University, Columbia University, The University of Chicago, Dartmouth College, The University of Illinois at Urbana Champaign, ETH Zurich, McGill University, The University of North Carolina Chapel Hill, Texas A&M University
- Graduates receive competitive offers from academia and industry within Pakistan and outside
- Fully funded PhD scholarships have been awarded to graduates
- More than 70% of graduates are placed in top-tier universities abroad for higher studies

FACILITIES

- State-of-the-art facilities and equipment that include a Confocal Microscope, Fluorescence Activate Cell Sorter (FACS), Fast Protein Liquid Chromatography (FPLC) Apparatus, MiSeq Next Generation Sequencer, Conventional and Real Time Thermo Cyclers, Ultrasonic Bioruptor, Gel Documentation Systems, High-Speed Centrifuges and Tissue Culture Rooms and access to Nuclear Magnetic Resonance (NMR) at SBASSE central laboratory facility
- Facilities for growing plants and incubating flies
- HPC nodes as well as General Purpose Graphical Processing Units (GPGPU) including NVIDIA's Grid K2 and Tesla K40C available
- Several in-house software tools available online to leverage the laboratories GPGPUs and HPCs



"The PhD Biology programme at LUMS has sharpened my mental abilities to discipline my research, which is critical in finding ways to answer important scientific questions. In its entirety, it has trained me in the direction of a research oriented professional of an international standard."

Saira Dar
PhD Biology 2015