



PROGRAM OFFERED

➤ MS Biotechnology

MISSION STATEMENT

To equip students with the expertise and practical skills essential for success in the biotech industries. We strive to produce graduates who are not only well-versed in advanced knowledge but also industry-ready, ensuring they are poised for seamless integration into graduate studies or thriving careers within corporations.

INSTITUTE OF
INTEGRATIVE BIOSCIENCES

Message From The Head Of Department

The Institute of Integrative Biosciences (IIB) at CECOS University stands at the forefront of biotechnology education and research. Currently offering a specialized MS in Biotechnology program, IIB provides advanced theoretical knowledge and hands-on training in cutting-edge biotechnological techniques. With strong industry ties, expert faculty, and state-of-the-art laboratories, the institute is dedicated to preparing researchers and professionals for leadership roles in innovation, development, and scientific discovery. Join IIB to become part of a community that is driving the future of biotechnology — now at the graduate level only.

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Ph.D., University of Peshawar



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FACULTY MEMBERS OF INTEGRATIVE BIOSCIENCES



IB Activities

- TRAININGS
- SESSIONS
- BOOTCAMP

INSTITUTE OF INTEGRATIVE BIOSCIENCES

The department offers the following graduate degree program:

■ MS Biotechnology

The MS in Biotechnology program is designed to bridge industry and research needs through a rigorous curriculum integrating advanced theory with hands-on laboratory training. Graduates will be equipped for careers in pharmaceuticals, genetic engineering, and biotech innovation, gaining the expertise to tackle global challenges in healthcare, agriculture, and sustainability.

Scheme of Studies

The MS degree program is of 02 years and spans four semesters, each of which is of 16-18-week duration. Total credit hours for the MS program are 30 (i.e., 24 credit hours of course work plus 06 credit hours of thesis and research in case of MS by research). This structure follows the HEC criteria for MS.

In Year-II, selected students will embark on a thesis (Plan A) project (i.e., based on CGPA, minimum 3 in 06 courses as well as synopsis defense); others will have to opt for the non-thesis (Plan B) track (i.e., all 30 credit hours derived from coursework). Students with unsatisfactory performance in their thesis research will be shifted to the non-thesis track (Plan B).

Plan-A		Plan-B	
Category	Credit Hours	Category	Credit Hours
Core Subjects	12	Core Subjects	12
Elective Subjects	12	Elective Subjects	12
Thesis	06	Additional Subjects	06
Total credit hours	30	Total credit hours	30

CURRICULUM OF MS Biotechnology

Core Courses

Course Title	Credit Hours	Course Title	Credit Hours
Advanced Molecular Biology	3	Gene Expression and Regulation	3
Applied Biostatistics	3	Advanced Virology	3
Recent trends in Biotechnology	3	Human Physiology	3
Techniques in Molecular Biology	2+1	Advances in Developmental Biology	3
Scientific Writing and Communication	3	Advanced Bioinformatics	3

Elective Courses

Course Title	Credit Hours	Course Title	Credit Hours
Bioprocess Technology	3	Bioentrepreneurship	3
Nanobiotechnology	3	Biosensors in Diagnostics	3
Biology of Cells and Viruses	3	Bioethics and Biosafety	3
Advances in RNA Biology	3	Disease Onset, Diagnosis, and Prevention	3
Drug Targeting Strategies	3	Pathophysiology and Pharmacological Management of	3
Research Methodology Involving the Use of Standard	3	selected Chronic Diseases	
Laboratory Animals		Drug Discovery and Development	3
Cancer Biology	3	Pharmacology	3
Food Security	3	Global Biotechnology Industry	3
Genetic Resources, Evolution, and Conservation	3	Plant Physiology, and Pathology	3
Synthetic Biology	3		

- Eligibility Criteria:
- Minimum 16-year education in relevant field with minimum 2.0 CGPA or 60% marks from University recognized by HEC.
 - Qualifying GAT-General Test of CECOS University or any other approved testing body (NTS/ETEA)