

MSc. Clinical Biochemistry

Program Overview

The Department of Clinical Biochemistry offers a rigorous two-year Master's program designed to bridge clinical and non-clinical aspects of Biochemistry, with a focus on the diagnostic healthcare and biomedical research. The curriculum combines in-depth theoretical study with hands-on laboratory experience, covering key areas such as molecular biology, clinical enzymology, clinical human physiology, diagnostic biochemistry, quality control etc. Students engage in research projects, gaining exposure to evidence-based practices and the latest advancements in the field. The program's emphasis on practical training, combined with its strong focus on research, ensures that students are not only prepared to meet the current demands of the healthcare industry but also to anticipate and respond to future challenges. Overall, the holistic approaches of the course education will not only prepare students for immediate professional roles but also shall lay a strong foundation in them for future advancements in the field of Clinical Biochemistry.

Program outcomes

1. **In-Depth Knowledge of Clinical Biochemistry:** Students will acquire a thorough understanding of biochemical processes, clinical diagnostics, and laboratory techniques relevant to the diagnosis and management of diseases. Moreover, they will be familiar about the biochemical basis of disease, including the role of biomarkers and metabolic abnormalities in clinical settings.
2. **Proficiency in Laboratory Techniques:** The students will demonstrate proficiency in advanced laboratory techniques and instrumentation used in clinical biochemistry. At the same time, the students will be skillful at performing complex biochemical sample analysis with high precision and accuracy while adhering to best practices in laboratory safety and quality control.
3. **Research and Evidence-Based Practice:** The 4th semester 6-months internship program of the course, encouraged to be carried out at prestigious institutes of India such as AIIMS, IISc Bengaluru, NCBS, CDRI etc., will make the students capable of not only designing and conducting research but also make them proficient in evaluating research projects in clinical biochemistry, contributing to the scientific knowledge and advancements in the clinical research field. This immersive experience in hospital and laboratory settings will allow the students to apply their knowledge to real clinical scenarios, enhancing their proficiency in advanced diagnostic techniques and data interpretation. Besides, the students will be capable of critically appraising scientific literature and applying evidence-based practices to improve clinical outcomes and laboratory practices.
4. **Effective Communication Skills in Clinical research:** At the end of the course, the students will be able to effectively communicate complex biochemical concepts and research findings clearly to diverse audiences, including healthcare persons, patients, and other relevant stakeholders.
5. **Bridging Education and Practice:** The combination of academic rigor and real-world exposure will ensure that the pass-out students are well-equipped for successful careers in clinical laboratories, research institutions, and the healthcare industry, with a strong foundation for future academic or professional growth.