

Post-Diploma Certificate in Biopharmaceutical Manufacturing

Modules	
1	Upstream Processing (36 hours)
2	Downstream Processing (36 hours)
3	Drug Formulation (36 hours)

This course provides students with hands-on skills in the production of biopharmaceuticals, starting from raw material processing, bioreactor fermentation, to cell harvesting and end product purification. The Drug Formulation module focuses on principles and practices in formulating and testing of pharmaceutical products. The PDC in Biopharmaceutical Manufacturing (PDC-BPM) will cover essential techniques and knowledge required by persons employed or seeking employment in the pharmaceutical, biopharmaceutical and medical technology industries.

Topics covered under this PDC include:

- Applications of recombinant technology
- Operation of laboratory-scale bioreactor
- Up-scaling up of animal cell cultures
- End product purification using affinity, ion exchange and gel filtration chromatography
- Design and formulation of two-phase pharmaceutical products (suspensions, emulsions and solid pharmaceutical products)
- Concepts in biopharmaceutics, pharmacokinetics, bioavailability, specialised dosage forms and targeted drug delivery
- Drug stability and shelf life

This PDC is a practice-based qualification with laboratory work being a major component of the curriculum.

The PDC-BPM is suitable for:

- Persons employed in biopharmaceuticals who wish to expand their job scope
- Persons seeking employment in the biopharmaceutical industry
- Technologists working in other fields who wish to upgrade their skills to gain employment in areas related to microbiology and chemical & biochemical analyses.

The curriculum will cover both basic and advanced topics and is suitable for persons with no prior knowledge of biological science. Engineers, chemists, production technologists, IT professionals will find this course useful should they wish to transit into new areas of employment.