

Course Overview



Course Information

Code: PHG-514

Title: Pharmaceutical Biotechnology

Cr hr: 2+0

Level: 10

Program: PharmD

Co-requisites: None

Prerequisites: MBC-228

Course Description

The course will serve as an introductory course on biotechnological approaches that are used in the production of clinically useful biopharmaceuticals. The course will review topics like cell structure and organization, protein synthesis (transcription and translation) and structure of protein. The course will introduce students to biotechnological concepts recombinant DNA technology, monoclonal antibodies, gene therapy, vaccines, stem cells and fermentation. The course will also deal with analytical techniques like gel electrophoresis, southern, northern and western blotting, dot-blot hybridization, DNA sequencing, polymerase chain reaction and Enzyme linked immunosorbent assay.

Topics

- Introduction to pharmaceutical biotechnology
- Cell structure and organization
- Amino acids and proteins
- Nucleic acids and protein synthesis
- Recombinant DNA technology
- Analytical techniques
- Monoclonal antibodies
- Gene therapy
- Vaccines
- Stem cell technology
- Transgenic and knockout mice
- Fermentation technology