**BBS 3219 Advanced molecular biology and biotechnology**

**Course description**

This course covers advanced molecular biology and principles of biotechnology. This is largely a practical course with most of the time spent in the laboratory.

**Course Objectives**

* To describe some advanced concepts in molecular biology
* To describe the principles of biotechnology.

**Learning outcomes:**

Apply advanced molecular biology techniques to disease diagnosis and research investigations..

**Content outline**

* Biotechnology
  + Vectors
  + Enzymes for nuclear research, hybridization, DNA-synthesis
  + PCR
  + Synthesis of primers, ligation, transfection, reverse transcription
* Uses in genetics
  + Gene libraries, construction and their uses
  + Restriction frgment length polymophisms analysis
* Genetic engneering
  + Recombinant DNA technology
  + Cell culture techniques
  + Mutagenesis,
  + Hybridisation
  + Plasmids protoplasta and cell fusion
  + Monoclonal antibodies
  + Cloned genes
* Gene transfer
  + Inborn genetic defects and disease

**Requirements:**

4 Weeks, 60 CH

**Mode of assessment**

Practical examination 40%

Final summative examination 60%