

105 CMED (Medical Genetics)

Course name	Medical Genetics
Course code &No.	105 CMED
Credit hours	1
Duration	Half academic year
Study year	First year of Medical college

Lectures: 1 /week = 1h

Tutorials: 0

Practical: 0

Objectives:

1. To highlight the significance of genetic contribution to the understanding of human disease states.
2. To elucidate the molecular pathogenesis of genetic disorders.
3. To elaborate the mode of inheritance of the genetic disorders.
4. To give the concepts of genetic polymorphism, linkage analysis.
5. To explain the techniques of genetic engineering and their application.

Course outlines: (15 lectures)

1. Introduction and definitions-The molecular basis of life.
2. The human chromosomes.
3. Mitosis and meiosis.
4. DNA - as a carrier of genetic information; replication, transcription and translation.
5. Genes, gene type - phenotype relationship.
6. Regulation of gene expression.
7. Nature of mutations and their causes.
8. Autosomal inheritance - Recessive, dominant.
9. Sex-linked inheritance - Recessive, dominant.
10. Genetic linkage - gene polymorphisms.
11. Molecular genetics: The haemoglobinopathies, thalassaemias and the red cell enzymopathies.
12. Diagnosis of genetic disorders.
13. Population genetics.
14. Genetic engineering.
15. Genetic counseling.

Method of Assessment:

This course is taught during the second term .One continuous assessment test will be held in the middle of the term (40%) followed by a final examination (60%) at the end of the term. Total mark is 100 marks

Exam	Marks
Continuous assessment test	40
Final examination	60
Total	100

Assigned Text Books:

- 1- Emery's Elements of Medical Genetics (12th Ed.)** by Peter D. Turnpenny, Sian Ph.D. Ellard, Churchill Livingstone, New York, USA, 2005.
- 2- Thompson & Thompson Genetics in Medicine (6th Ed)** by Robert L. Nussbaum, Roderick R. McInnes, Huntington F. Willard W.B. Saunders Company, London, UK, 2004.