	National University of Sciences and Technology
	Course Description

Course Title	Course Code	Credit Hours
Cancer Cytogenetics	BMES-825	3 – 0

TEXT BOOK:

- Molecular Biology of Human Cancers, Wolfgang A Schulz, Springer, 2023. (latest edition).
- Cancer Biology, Raymond W Ruddon, (4rth Edition), OXFORD University Press 2007.
- Molecular Biology of Cancer, Mechanism, Targets and Therapeutics (5th Edition). Lauren Picarino 2021 (latest edition).

REFERENCE BOOK

- N/a

COURSE OBJECTIVES:

Cancer genetics is a field of daunting breadth and depth. The literature describes hundreds of genes and genetic alterations that are variably associated with again as many disease states and risk factors. Integrating these disparate pieces of highly specialized information is challenging for professional scientists and students alike. This course consolidates the main concepts of the cancer gene theory and provides understanding for the genetic basis of cancer.

COURSE OUTLINES

- Epidemiology of Human Cancers
- Abnormal Cell Cycle in Cancer
- DNA Damage Response in Cancer
- Apoptosis and Necrosis in Cancer
- Cancer Genetics and Epigenetics
- Oncogenes and Tumor suppressor genes
- Invasion and Metastasis of cancer
- Principal of cancer signaling
- Diagnosis tools
- Prevention and treatment of cancers

ASSESSMENTS

Description	Percentage Weightage (%)
Assignments	05-10%
Quizzes	10-15%
Mid Semester Exams	30-40%
End Semester Exam	40-50%