



National University of Sciences and Technology

Course Description

Course Title	Course Code	Credit Hours
Advanced Biomaterials	BMES-842	3 – 0

TEXT BOOK:

- Biomaterials, J.B. Park and R.S. Lakes 2007 (latest edition).

REFERENCE BOOK

- N/a

COURSE OBJECTIVES:

This course provides a theoretical and practical understanding of the mechanical properties of biomaterials. The course aims to bring an understanding of the fundamental relationships between the mechanical properties of a range of biomaterials and the biomedical applications of those materials. It looks at several applications of materials and the principles that have led to the choice of biomaterials for those applications. The use and properties of each type of material will be discussed in the light of current clinical applications (implants, surgical tools, catheters, biological implants).

COURSE OUTLINES

- Principles of materials science and mechanical properties
- Polymers
- Biological Materials
- Ceramics
- Metals and Composites

ASSESSMENTS

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