National University of Sciences and Technology

Course Description

Course Title	Course Code	Credit Hours
Continuum Mechanics.	**ME 803**	3 – 0

Textbook:

- Introduction to the Mechanics of a Continuous Medium L. E. Malvern Prentice Hall.

Reference Books:

- J. M. Spencer, Longman, Continuum Mechanics.

Course Objective:

- Equip students with advanced analytical and computational skills to understand and solve complex problems in continuum mechanics, essential for innovation and research in mechanical engineering.

Course Outline:

- Introduction, basic assumptions, vectors and tensors, tensor analysis, state of stress, kinematics of deformation.
- General principles of mechanics and thermodynamics. Constitutive equations of large-deformation elasticity, development of mathematical tools, Kinematics of a continuum stresses general principles.
- Theory of constitutive equations. Basic material laws.
- Curvilinear coordinate systems in tensors.

ASSESSMENTS

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