

BME211 Applied Biomechanics

Level: 2

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JAN

Synopsis:

This course covers the various problem-solving approaches of biomechanical problems, equilibrium, kinematic and kinetic concepts for analyzing human movement, biomechanics of human bone growth and development, and biomechanics of human lower and upper extremities. The course aims to provide students with good knowledge and understanding of the biomechanical aspects of the human body which will be required in the analysis of biomechanical problems and human movements.

Topics:

- Biomechanics Analysis of Human Movement
- Kinematic Concepts
- Kinetic Concepts
- Concept of Stress and Strain
- Biomechanics of Human Bone Growth and Development
- Biomechanics of Human Upper and Lower Extremities

Learning Outcome:

- Distinguish between qualitative and quantitative approaches for analyzing human movements
- Apply kinematic and kinetic concepts for solving biomechanics problems
- Identify, describe and calculate the different types of mechanical loads acting on the human body
- Discuss the processes involved in the normal growth, maturation of bone and formulate equations for human bone modelling
- Demonstrate understanding of the biomechanics of human upper and lower extremities
- Analyze results of experiment from quantitative human movement analysis

Assessment Strategies:

Continuous Assessment Component	Weightage (%)
QUIZ	15
QUIZ	15
Sub-Total	30

Examinable Component	Weightage (%)
Written Exam	70
Sub-Total	70

Weightage Total **100**