Kinesiology (Second year)

Topics :

- **Bone health in physical therapy.**
  - Mechanics of bone loading
  - Effects of lack of activity on bone health
  - Effect of diet and Excersises
  - How to give advices to normal subject to maintain skeletal system healthy
  - How to assess bone changes in adult
- **Good body mechanics in physical therapy practice (for therapist and patient) .**
  - Definition
  - principles
  - Benefits of good body mechanics
  - applications
  - Common mistakes in therapist posture among medical providers and how to correct .
  - Common mistakes in patient postures and how to correct .
    .
- **Equilibrium in physical therapy field .**
  - Definition
  - Related terms
  - Conditions of equilibrium give examples
  - Differences between balance and equilibrium
  - Applications in physical therapy
  - Applications in other field
- **Studying kinesiology can improve performance**
  - Definitions of kinesiology
  - Related terms
  - Apply for patient
  - Apply for athlete
  - Apply for ergonomics.
  - Use examples of patient education

- **Studying movement include integration of different fields**
    - Definition of kinesiology
    - Related fields
    - identify these fields
    - discuss their relation with kinesiology
    - varieties of application)
- **Biomechanics course design for distant learning**
    - Objectives
    - Contents
    - Relation with physical therapy
    - Media
    - Grading
    - Syllabus
    - Modifications for human with special needs
- **Biomechanics of Viscoelastic materials response to loading**
    - Functional anatomy ofviscoelastic materials
    - Examples and properties
    - Effects of training on each material
    - Effects of immobilization of each material
    - Pathomechanics of cartilage degeneration
- **Clinical applications of biomaterial in physical therapy**
    - Introduction on biomechanics of biomaterial
    - Importance of study of biomaterial in evaluation
    - Importance of study of biomaterials in prevension
    - Importance of study of biomaterials in rehabilitation
    - Importance of study of biomaterials in orthotics and prothetics
- **Biomechanics of muscle training**
    - Skeletal muscle structure
    - Factors affecting muscle torque
    - Biomechanics of exercise dosimetry
    - Pathomechanics of muscle injury

(all topics should be illustrated with pictures and diagrams)

General instructions:

Text include (cover page , objectives of the research , list of contents ,list of diagrams and pictures , titles in bold times new roman 18 , each paragraph not more than 6 lines times new roman 16 , references, numbering of pages). each one participation should be determined and illustrated. Pages ranges from 10to 20 pages . group of 5 students are encourged

Goodluck

Olfat Kandil