

INTRODUCTION, AREAS OF BIOMECHANICS

block of wood sliding down a board: laws of mechanics apply

engine of a car: laws of mechanics apply

person walking down the street: laws of mechanics do not apply? Yes, they do.

Biomechanics: study of human movement and its mechanical causes.

Biomechanics: very wide, interdisciplinary field.

Various specialties within biomechanics, and their purposes:

- Orthopedics

Deals with prosthesis design.

- Highway Safety Biomechanics, Aerospace biomechanics

Goal: Provide safety to withstand large accelerations or decelerations.

- Ergonomics, Human Factors

Goal: Provide safety and ease in the workplace.

- Exercise Science Biomechanics

Goals:

- (a) to understand the mechanics of motion in human activities
- (b) to improve performance in sports
- (c) to increase safety in sports and in other human activities

through changes in movements (technique)

through changes in equipment design

