

Chapter 1 - Introduction

anthropometric
biomechanics
dynamics
kinematics
kinesiology
kinetics
mechanics
sports medicine
statics

Chapter 2 - Kinematic Concepts

anatomical reference position
angular motion
anteroposterior axis
axial
axis of rotation
cardinal planes
curvilinear
frontal plane
general motion
linear motion
pronation
qualitative
quantitative
rectilinear
sagittal plane
supination
translation
transverse axis
transverse plane

Chapter 3 - Kinetic Concepts

center of mass (mass centroid, center of gravity)
combined loading
compression
compressive strength
deformation

density
force
mass
moment arm
net force
pressure
repetitive loading
resultant
scalar
shear
specific weight
stress
tensile strength
tension
torque
torsion
transducers
vector
vector composition
vector resolution
volume
weight

Chapter 4 - Biomechanics of Human Bones

amenorrheic
anisotropic
bone hypertrophy
bone atrophy
cortical bone
epiphysis
flat bones
fracture
irregular bones
long bones
longitudinal axis
osteoblasts
osteoclasts
osteocyte
osteoporosis
periosteum
short bones

stiffness
strain
stress fracture
trabecular bone

Chapter 6 - Biomechanics of Human Skeletal Muscle

agonist
antagonist
concentric contraction
contractile component
dislocating component
eccentric contraction
electromechanical delay
fast twitch fiber
isometric contraction
motor unit
myoelectric activity
neutralizer
parallel elastic component
parallel fiber arrangement
pennate fiber arrangement
rotary component
series elastic component
slow twitch fiber
stabilizer
stabilizing component
stretch-shortening cycle
tetanus

Chapter 10 - Linear Kinematics

acceleration
apex
displacement
initial velocity
instantaneous
kinematics
laws of constant acceleration
projectile
projection speed

range
relative projection height
relative velocity
trajectory
velocity

Chapter 11 - Angular Kinematics

absolute angle
angle of attack
angle of projection
angular
angular acceleration
angular displacement
angular velocity
instant center
radial acceleration
radian
range of motion
relative angle
right hand rule
tangential acceleration

Chapter 12 - Linear Kinetics

coefficient of friction
coefficient of restitution
force
free body diagram
friction
impact
impulse
inertia
kinetic energy
kinetic friction
kinetics
mass
maximum static friction
momentum
normal reaction force
perfectly elastic impact

perfectly plastic impact
potential energy
power
strain energy
work

Chapter 13 - Equilibrium

balance
base of support
dynamic equilibrium (D'Alembert's principle)
first class lever
fulcrum
lever
mechanical advantage
reaction board
second class lever
segmental method
stability
static equilibrium
third class lever
torque

Chapter 14 - Angular Kinetics

angular impulse
angular momentum
centrifugal force
centripetal force
couple
moment of inertia
radius of gyration
radius of rotation
torque