



Douglas
College



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M: Course Objectives/Learning Outcomes

Upon completion of this course, the student should be able to:

1. Describe the structure and function of cells
2. Explain how materials enter into and exit from cells
3. Describe the structure and function of epithelial, connective, muscular and nervous tissue
4. Explain homeostatic mechanisms in the human body
5. Describe the body's structure and organization
6. Describe the structure and function of the integumentary system
7. Describe the structure and function of cartilage and bone
8. Name the bones making up the skeleton
9. Describe the structure and function of fibrous, cartilaginous and synovial joints
10. Describe first, second and third-class levers and explain biomechanical principles
11. Describe the structure and function of smooth, cardiac and skeletal muscle
12. Describe kinds of muscle contractions and explain the mechanisms of contraction
13. Name major skeletal muscles and give their origins, insertions and functions
14. Describe the organization of the nervous system
15. Describe the structure and function of nervous tissue, brain and spinal cord
16. Explain the mechanism of nerve impulse transmission
17. Describe types of sensory receptors and explain reflex arc physiology
18. Describe disorders of the joints and the integumentary, skeletal, muscular and nervous systems
19. Identify structures on slides, models and charts and conduct tests and experiments related to course objectives

N: Course Content

1. CELLS
 - structure and function
 - cell division
2. CELLULAR PROCESSES
 - passive processes
 - active processes
3. TISSUES
 - classification
 - structure and function of epithelial, connective, muscular and nervous tissue
4. HOMEOSTASIS
 - stress and homeostasis
 - negative feedback mechanisms
 - positive feedback mechanisms
5. BODY STRUCTURE AND OR

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| 7. | SKELETAL SYSTEM | - | functions |
| | | - | classification |
| | | - | bone structure |
| | | - | bone formation |
| | | - | bone growth |
| | | - | homeostasis |
| | | - | bone disorders |
| | | - | axial skeleton |
| | | - | appendicular skeleton |
| 8. | ARTICULATIONS | - | classification |
| | | - | characteristics |
| | | - | structure and function of major joints |
| | | - | joint disorders |
| | | - | lever systems |
| | | - | biomechanical principles |
| 9. | MUSCULAR SYSTEM | - | muscle types |
| | | - | characteristics |
| | | - | muscle growth and development |
| | | - | skeletal muscle |
| | | - | types of fibers |
| | | - | gross anatomy |
| | | - | microscopic anatomy |
| | | - | mechanism of contraction |
| | | - | kinds of contractions |
| | | - | smooth muscle |
| | | - | structure and function |
| | | - | cardiac muscle |
| | | - | structure and function |
| | | - | muscle homeostasis |
| | | - | muscle disorders |
| | | - | principle skeletal muscles |
| 10. | NERVOUS SYSTEM | - | organization - CNS, PNS, ANS |
| | | - | growth and development |
| | | - | brain - structure and function |
| | | - | spinal cord-structure and function |
| | | - | physiology of impulse transmission |
| | | - | spinal and cranial nerves |
| | | - | neurotransmitters |
| | | - | reflex arc |
| | | - | sensory receptors |
| | | - | proprioception |
| | | - | sensory and motor pathways |
| | | - | motor unit |
| | | - | special senses - vision, hearing, smell, taste |
| | | - | nervous system disorders |

