

M: Course Objectives / Learning Outcomes

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

1. acquire a problem solving process, including how to integrate knowledge, how to use inquiry, critical thinking and scientific reasoning to solve problems in the context of dissecting several cases which involve cells, tissues and the homeostasis of systems
2. describe the skeletal, muscular, respiratory, digestive, excretory and endocrine systems
3. describe primary aging in the older adult
4. describe secondary aging in the older adult
5. describe appropriate TR interventions for the physical age related changes
6. design appropriate physical recreation programs for older adults
7. describe the role of nutrition in healthy aging

N: Course Content: The following global ideas guide the design and delivery of this course:

The major topics in the course include problems that involve the following learning issues:

Alternate Hypotheses to explain the symptoms presented in each case

- developing as many explanations for the symptoms presented as possible

Skeletal System

- bone cells, tissues
- anatomy of skeletal system and types of joints
- composition of joint-joint serum
- relationship of muscles to joints
- types of bone and bone growth
- types and causes of arthritis

Muscular System

- how muscles work
- anatomy of muscular system with respect to movement
- biomechanics of movement

Digestive System

- anatomy of the digestive tract and associated organs
- function of the digestive tract and associated organs, in particular the pancreas and liver
- role of intestines and colon in absorption
- relationship of liver to blood homeostasis
- malfunctions of the digestive tract, particularly the colon
- relationship between nutrition and cardiovascular health
- review diagnostic tests, including normal counts of white blood cells, red blood cells, blood pH, hematocrit and blood proteins
- significance of blood tests and homeostasis of body
- relationship of diet to health of digestive tract
- consequences of obesity

Respiratory System

- review of anatomy and physiology respiratory system
- review of normal respirations/minute and reasons for deviance
- why breathing is critical

Immune System

- interactions with other systems-complements
- nonspecific defenses (membrane barriers, cellular and chemical defenses)
- specific immune defenses – immunity
- antigens/antibodies
- humoral immune response/cell-mediated response
- immunodeficiencies/autoimmune diseases

Endocrine System

- major endocrine glands
- what are hormones?
- functions of hormones generally
- hormone-target cell specificity
- pancreatic hormones
- role of pancreas in homeostasis of blood sugar
- effect of aging on endocrine system functioning
- connection between body weight and reproductive hormones
- relationship of endocrine system to appropriate food intake

Urinary System

- anatomy and physiology of urinary system
- role of the nephron in producing urine
- role of nephron in maintaining blood pH
- significance of urine tract symptoms
- significance of various urine tests

Other Issues

- relationship between normal A&P and social environment
- relationship between nutrition and homeostasis
- relationship between nutrition and nervous system

Social Implications of Illness

- issues with respect to aging and living alone
- issues with respect to sudden illness
- dealing with depression
- issues with respect to social attitudes that equate slimness with beauty

Primary Aging

- normal physical changes in appearance, cardiorespiratory, musculoskeletal, and endocrine systems

Secondary Aging

- disease process that impact physical aging including heart disease, cerebral vascular accidents, arthritis, osteoporosis, diabetes

TR Interventions

- role and benefits for physical activity
- role and benefits of nutrition

TR Programs & Experiences

- use of activity analysis and adaptation to design physical recreation programs
- design of appropriate and safe physical recreation programs
- use of the Canada Food Guide to guide nutrition analysis

O: Methods of Instruction

- Lecture/discussion
- Case studies
- Media
- Videotaping self
- Self directed, interdependent, small groups, problem-based learning

P: Textbooks and Materials to be Purchased by Students

A list of recommended textbooks and materials is provided for students at the beginning of each semester.

Resources include:

- Selected readings from a variety of TR practice textbooks
- Selected audio-visual and computer resources
- Selected readings from books and journals

Q: Means of Assessment: This course will conform to Douglas College policy regarding the number and weighting of evaluations

An evaluation schedule is presented at the beginning of the course.

This is a graded course

R: Prior Learning Assessment and Recognition:

Open for PLAR

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