COURSE HES2010: FIRST AID/CPR with AED

Level: Intermediate

Prerequisite: None

Description: Students study and demonstrate first-aid skills and procedures, including Cardio-Pulmonary Resuscitation (CPR) and Automatic External Defibrillator (AED), for dealing with emergency situations. Students identify a child-safe environment and recognize and demonstrate skills and procedures for dealing with common child and infant emergency situations. Students prepare for experience in health care, recreation and community settings by developing a basic health and safety plan for their experience.

Parameters: Access to instruction from an individual with a recognized first aid/CPR with AED instructor's certificate.

Note: Students will qualify for certification in *Standard and Emergency First Aid with AED and CPR* when they meet the competencies specified by the credentialing agency.

Outcomes: The student will:

1. **describe the roles and responsibilities of the first-aider for providing first aid for all individuals, including children and infants**
   - 1.1 outline the objectives of first aid
   - 1.2 state the universal precautions in first-aid
   - 1.3 identify preparations for emergencies
   - 1.4 outline the legal implications of performing first-aid
   - 1.5 differentiate between life-threatening and non life-threatening emergencies
2. **identify causes, signs and symptoms of emergency injuries and conditions for all individuals, including children and infants**
   - 2.1 airway emergencies
   - 2.2 breathing emergencies
   - 2.3 circulation emergencies
   - 2.4 head and spinal injuries
   - 2.5 bone, muscle and joint injuries
   - 2.6 wounds
   - 2.7 sudden medical conditions
   - 2.8 environmental emergencies
   - 2.9 childhood illnesses
3. **demonstrate first-aid procedures used in:**
   - 3.1 emergency scene management
   - 3.2 life threatening emergencies, including AED use
   - 3.3 non life threatening emergencies
   - 3.4 providing on-going care
4. **describe how to meet the physical, emotional, psychological and social needs of all individuals involved in an emergency**
   - 4.1 discuss typical reactions
   - 4.2 describe barriers to action that may influence the actions of the first-aider
   - 4.3 identify available resources

5. identify practices that provide a safe environment for infants and children

5.1 develop safety practices

- 5.1.1 at home
- 5.1.2 at school
- 5.1.3 with motorized vehicles
- 5.1.4 at play

6. describe how to prevent emergency situations and/or injuries

6.1 develop safety practices

- 6.1.1 at home
- 6.1.2 at work
- 6.1.3 at school
- 6.1.4 with motorized vehicles
- 6.1.5 at play

7. create a health and safety plan for a health care or recreation setting

7.1 research and identify eight common elements of a health and safety plan specific to a setting

- 7.1.1 Safety Policies and Responsibilities
- 7.1.2 Hazard Assessment and Controls
- 7.1.3 Inspections
- 7.1.4 Accident and Incident Investigations
- 7.1.5 Guidelines
  - 7.1.5.1 Safe Work Practices
  - 7.1.5.2 Safe Work Procedures
  - 7.1.5.3 Personal Protective Equipment (PPE's)
- 7.1.6 Training
  - 7.1.6.1 Orientation
  - 7.1.6.2 Course specific
- 7.1.7 Records and Statistics
  - 7.1.7.1 Maintenance
  - 7.1.7.2 Meetings
- 7.1.8 Emergency Response

7.2 explain each of the elements reflecting on OHS implications

7.3 define health and safety elements relevant to the world of work

7.4 present a health and safety plan clarifying its relevance to the work world and society in general

8. research common processes and methods of hazard assessment and controls

8.1 research and identify common jobsite hazard identification processes

8.2 research and identify common methods to address control of hazards

9. demonstrate basic competencies

9.1 demonstrate fundamental skills to:

- 9.1.1 communicate
- 9.1.2 manage information
- 9.1.3 use numbers
- 9.1.4 think and solve problems

9.2 demonstrate personal management skills to:

- 9.2.1 demonstrate positive attitudes and behaviours
- 9.2.2 be responsible
- 9.2.3 be adaptable
- 9.2.4 learn continuously
- 9.2.5 work safely

9.3 demonstrate teamwork skills to:

- 9.3.1 work with others
- 9.3.2 participate in projects and tasks

10.identify possible life roles related to the skills and content of this cluster

10.1 recognize and then analyze the opportunities and barriers in the immediate environment

10.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2020: NERVOUS SYSTEM & SENSES

Level: Intermediate

Prerequisite: HES1010: Health & Wellness Fundamentals

Description: Students acquire the knowledge and skills necessary for the promotion and maintenance of a healthy nervous and sensory system. Students study pathologies of nervous system and sensory system conditions and gain an appreciation for practicing a healthy lifestyle as it pertains to the individual, family, peers and community.

Supporting Course: HES2030: Endocrine System

Outcomes: The student will:

1. explain the basic anatomy and function of the nervous system

- 1.1 define common terms related to the nervous system using a list of prefixes, roots and suffixes
- 1.2 describe the organization of the nervous system according to structure
  - 1.2.1 name and locate basic components of the central nervous system, including grey and white matter
  - 1.2.2 name and locate basic components of the peripheral nervous system, including dermatomes
- 1.3 describe the organization of the nervous system and sensory system according to function
  - 1.3.1 identify voluntary and involuntary controls in the body
  - 1.3.2 identify effectors in the somatic and autonomic systems
  - 1.3.3 differentiate between the functions of the sympathetic and parasympathetic system
  - 1.3.4 differentiate between special senses and general senses
- 1.4 explain the structure and function of neurons and neuroglia
  - 1.4.1 diagram the structure of neurons
  - 1.4.2 differentiate between sensory, afferent and efferent neurons, and interneurons
  - 1.4.3 differentiate between myelinated and unmyelinated neurons
- 1.5 explain the structure and function of nerves and tracts, including afferent, efferent and mixed nerves
- 1.6 summarize how a nerve impulse is transmitted
  - 1.6.1 describe the role of sensory receptors, including sensory neurons, effectors, specialized sensory cells
  - 1.6.2 classify sensory receptors into four categories (chemoreceptors, photoreceptors, thermoreceptors and mechanoreceptors)
  - 1.6.3 explain sensory adaptation
  - 1.6.4 diagram an action potential
  - 1.6.5 explain the role of myelin in relation to action potential
  - 1.6.6 describe impulse transmission at the synapse
    - 1.6.6.1 outline the function of several neurotransmitters
    - 1.6.6.2 explain the role of cellular receptors in the action of neurotransmitters

1.7 analyze a reflex arc using personal experiences
- 1.7.1 describe the components of a reflex arc
- 1.7.2 describe several examples of reflexes in the body
- 1.7.3 demonstrate location of personal reflexes

1.8 name and locate the structures of the brain
- 1.8.1 define terms related to brain structure
- 1.8.2 four main divisions of the brain (cerebrum, diencephalon, brain stem and cerebellum)
- 1.8.3 lobes of the cerebrum(frontal, parietal, temporal, occipital, insula)
- 1.8.4 thalamus and hypothalamus
- 1.8.5 pituitary and pineal glands
- 1.8.6 midbrain, pons, medulla oblongata
- 1.8.7 limbic system, including hippocampus and reticular formation
- 1.8.8 protective structures, including meninges, cerebrospinal fluid, and blood-brain barrier
- 1.8.9 twelve cranial nerves
- 1.8.10 grey and white matter
- 1.8.11 central and lateral sulci
- 1.8.12 basal nuclei
- 1.8.13 fibrils in the cerebral cortex

1.9 describe the basic function of each of the structures of the brain

1.10 name and locate the structures of the eye, including
- 1.10.1 structures that protect the eyeball
- 1.10.2 layers of the eyeball (sclera, choroid, retina)
- 1.10.3 rods and cones
- 1.10.4 Aqueous humor and vitreous humor
- 1.10.5 lens
- 1.10.6 major muscles that move the eyeball
- 1.10.7 intrinsic muscles (iris, ciliary muscles)
- 1.10.8 sensory nerves that connect to the eye

1.11 describe the function of the each of the structures of the eye

1.12 explain the process of refraction as light rays pass through the eye

1.13 differentiate between rods and cones, comparing shape, number, distribution, stimulus, visual acuity, pigments and color perception

1.14 name and locate the structures of the outer, middle and inner ear

1.15 describe how structures of the ear function to maintain static and dynamic equilibrium

1.16 describe how the structures of the ear function for an individual to hear sound

1.17 describe the functions of the sensory system allowing
- 1.17.1 touch/pressure
- 1.17.2 pain
- 1.17.3 temperature
- 1.17.4 taste
- 1.17.5 kinesthesia and position
- 1.17.6 smell

1.18 compare the roles of the nervous system, sensory system and endocrine system as systems involved in coordination and control

2. evaluate factors that contribute to the promotion and maintenance of healthy nervous system and senses using case studies

2.1 summarize the role of the nervous system and sensory system in achieving and maintaining wellness

2.2 explain the effects of aging on the function of the nervous system

2.3 explain the effect of aging on the function of the sensory system

2.4 predict the effect of lifestyle choices on the wellness of the nervous and sensory systems, including choices related to cultural beliefs and practices
2.5 recommend preventative lifestyle choices required for nervous and sensory system wellness
2.5.1 describe the relationship of active living to the health of the nervous and sensory systems
2.5.2 describe the relationship of proper nutrition to the health of the nervous and sensory systems

3. explain the basic pathology and treatment of conditions of the nervous system using case studies
3.1 summarize the signs and symptoms of common conditions of the nervous system
3.2 summarize causes of nervous system pathologies
3.3 describe diagnostic procedures available for these conditions
3.4 summarize medical and integrative health treatments available for these conditions
3.5 describe the impact of pathologies of the nervous system on other body systems
3.6 explain the social, emotional and economic impact of these conditions on the individual, family , peers and the community
3.7 summarize community resources available for people living with nervous system pathologies

4. explain the basic pathology and treatment of conditions of the sensory system
4.1 summarize the signs and symptoms of common conditions of the sensory system
4.2 summarize causes of sensory system pathologies
4.3 describe diagnostic procedures available for these conditions
4.4 summarize medical and integrative health treatments available for these conditions
4.5 describe the impact of pathologies of the sensory system on other body systems
4.6 explain the social, emotional and economic impact of these conditions on the individual, family , peers and the community
4.7 summarize community resources available for people living with sensory system pathologies

5. demonstrate basic competencies
5.1 demonstrate fundamental skills to:
5.1.1 communicate
5.1.2 manage information
5.1.3 use numbers
5.1.4 think and solve problems
5.2 demonstrate personal management skills to:
5.2.1 demonstrate positive attitudes and behaviours
5.2.2 be responsible
5.2.3 be adaptable
5.2.4 learn continuously
5.2.5 work safely
5.3 demonstrate teamwork skills to:
5.3.1 work with others
5.3.2 participate in projects and tasks

6. identify possible life roles related to the skills and content of this cluster
6.1 recognize and then analyze the opportunities and barriers in the immediate environment
6.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2030: ENDOCRINE SYSTEM

Level: Intermediate

Prerequisite: HES1010: Health & Wellness Fundamentals

Description: Students acquire the knowledge and skills necessary for achieving and maintaining a healthy Endocrine System and balanced hormonal health. Students gain an appreciation for practicing a healthy lifestyle as it pertains to the individual, family, peers and community.

Supporting Courses: HES2020: Nervous System & Senses
HES1070: Cardiovascular System
HES2040: Urinary System

Outcomes: The student will:

1. **explain basic principles of hormonal control and regulation**
   - 1.1 define common terms related to the endocrine system using a list of prefixes, roots and suffixes
   - 1.2 compare the roles and functions of the endocrine system and nervous system in the control and coordination all other body systems
   - 1.3 describe the basic function of exocrine and endocrine hormones as chemical messengers
     - 1.3.1 secretion
     - 1.3.2 function locally, on specific tissues, or generally on all body systems
     - 1.3.3 bind to receptors on target cells, changing cell activities affecting
       - 1.3.3.1 manufacture of proteins
       - 1.3.3.2 permeability of membranes
       - 1.3.3.3 metabolic reactions
   - 1.4 categorize hormones according to chemistry
     - 1.4.1 amino acids
     - 1.4.2 lipids, including steroids and prostaglandins
   - 1.5 compare the processes of negative feedback, positive feedback and rhythmic hormonal regulation
2. **analyze the anatomy and function of the endocrine system**
   - 2.1 name and locate the glands of the endocrine system
   - 2.2 describe the functions of the pituitary gland
     - 2.2.1 regulated by the hypothalamus
     - 2.2.2 compare the functions of the anterior and posterior lobes
     - 2.2.3 diagram the feedback systems that regulate each hormone secreted by the pituitary gland
   - 2.3 justify the pituitary gland as the master gland
   - 2.4 describe the functions of the thyroid gland
     - 2.4.1 regulated by the hypothalamus
     - 2.4.2 summarize the functions of the hormones produced by the thyroid gland
     - 2.4.3 diagram the feedback systems that regulate each hormone secreted by the thyroid gland
   - 2.5 describe the functions of the parathyroid glands
     - 2.5.1 summarize the functions of the hormones produced by the parathyroid glands
     - 2.5.2 diagram the feedback systems that regulate each hormone secreted by the parathyroid glands

2.6 describe the functions of the adrenal medulla
- 2.6.1 summarize the functions of the hormones produced by the adrenal medulla
- 2.6.2 diagram the feedback systems that regulate each hormone secreted by the adrenal medulla

2.7 describe the functions of the adrenal cortex
- 2.7.1 summarize the functions of the hormones produced by the adrenal cortex
- 2.7.2 diagram the feedback systems that regulate each hormone secreted by the adrenal cortex

2.8 describe the functions of the pancreas
- 2.8.1 summarize the functions of the hormones produced by the pancreas
- 2.8.2 diagram the feedback systems that regulate each hormone secreted by the pancreas

2.9 describe the functions of the reproductive glands
- 2.9.1 summarize the functions of the hormones produced by the sex glands
- 2.9.2 diagram the feedback systems that regulate each hormone secreted by the sex glands

2.10 describe the functions of the thymus gland
- 2.10.1 summarize the functions of the hormones produced by the thymus
- 2.10.2 diagram the feedback systems that regulate each hormone secreted by the thymus

2.11 describe the functions of the pineal gland
- 2.11.1 summarize the functions of the hormones produced by the pineal gland
- 2.11.2 diagram the feedback systems that regulate each hormone secreted by the pineal gland

3. explain the complexity of the body's response to stress

3.1 define stress
3.2 list causes of stress
3.3 outline the nervous system response to stress
3.4 describe the endocrine system to stress
3.5 compare the positive and negative results of stress on other body systems

4. explain the use of hormones as a form of medical treatment

- 4.1.1 describe three sources of hormones for medical treatment, including animal tissues, synthetic production, genetic engineering
- 4.1.2 describe examples of hormones used in medical treatment
  - 4.1.2.1 growth hormones
  - 4.1.2.2 insulin
  - 4.1.2.3 adrenal steroids
  - 4.1.2.4 epinephrine
  - 4.1.2.5 thyroid hormones
  - 4.1.2.6 oxytocin
  - 4.1.2.7 androgens
  - 4.1.2.8 estrogen and progesterone

5. evaluate factors that contribute to the promotion and maintenance of a healthy endocrine system using multiple case studies

5.1 summarize the role of the endocrine system in achieving and maintaining wellness
5.2 summarize the effects of aging on the function of the endocrine system
5.3 predict the effect of lifestyle choices on the wellness of the endocrine system, including choices related to cultural beliefs and practices
5.4 recommend preventative lifestyle choices required for endocrine wellness
- 5.4.1 describe the relationship of active living to endocrine health
- 5.4.2 describe the relationship of proper nutrition to endocrine health
- 5.4.3 examine issues related to the agriculture and processing and packaging of food

6. **explain the basic pathology and treatment of endocrine system conditions using multiple case studies**
   - 6.1 summarize the signs and symptoms of common endocrine conditions, including disorders related to hyperactivity and hypoactivity of glands
   - 6.2 summarize causes of endocrine system pathologies
   - 6.3 describe diagnostic procedures available for these conditions
   - 6.4 summarize medical and integrative health treatments available for conditions of the endocrine system
   - 6.5 summarize the role of dietary management for the treatment and management of various conditions
   - 6.6 describe the impact of pathologies of the endocrine system on other body systems
   - 6.7 explain the social, emotional and economic impact of these conditions on the individual, family , peers and the community
   - 6.8 summarize community resources available for people living with endocrine system pathologies
7. **demonstrate basic competencies**
   - 7.1 demonstrate fundamental skills to:
     - 7.1.1 communicate
     - 7.1.2 manage information
     - 7.1.3 use numbers
     - 7.1.4 think and solve problems
   - 7.2 demonstrate personal management skills to:
     - 7.2.1 demonstrate positive attitudes and behaviours
     - 7.2.2 be responsible
     - 7.2.3 be adaptable
     - 7.2.4 learn continuously
     - 7.2.5 work safely
   - 7.3 demonstrate teamwork skills to:
     - 7.3.1 work with others
     - 7.3.2 participate in projects and tasks
8. **identify possible life roles related to the skills and content of this cluster**
   - 8.1 recognize and then analyze the opportunities and barriers in the immediate environment
   - 8.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2040: URINARY SYSTEM

Level: Intermediate

Prerequisite: HES1010: Health & Wellness Fundamentals

Description: Students acquire the knowledge and skills necessary for achieving and maintaining urinary health and balanced body fluids. Students gain an appreciation for practicing a healthy lifestyle as it pertains to the individual, family, peers and community.

Supporting Course: HES2030: Endocrine System
HES2100: Nutrition for Recreational Activities & Sport

Outcomes: The student will:

1. **analyze basic principles of fluid balance**
   - 1.1 describe three important role water plays in the maintenance of health and wellness
     - 1.1.1 solvent
     - 1.1.2 transport medium
     - 1.1.3 participant in metabolic reactions
   - 1.2 define terms related to fluid balance
   - 1.3 state the percentage of water in the body related to body weight
   - 1.4 compare intracellular and extracellular fluid, naming four types of extracellular fluid
   - 1.5 describe how water intake and output is balanced
   - 1.6 explain the thirst mechanism
   - 1.7 justify the importance of electrolyte balance
   - 1.8 justify the importance of ph balance
   - 1.9 analyze characteristics of urine as indicators of health using case studies
     - 1.9.1 volume
     - 1.9.2 ph
     - 1.9.3 specific gravity
     - 1.9.4 normal constituents
     - 1.9.5 abnormal constituents
2. **explain the basic anatomy and functions of the urinary system**
   - 2.1 define common terms related to the urinary system and fluid balance using a list of prefixes, roots and suffixes
   - 2.2 name and locate the major organs of the urinary system
   - 2.3 describe the functions of the urinary system
     - 2.3.1 elimination of waste from blood
     - 2.3.2 water balance
     - 2.3.3 acid base balance and regulation of electrolytes
     - 2.3.4 blood pressure regulation
     - 2.3.5 stimulation of red blood cell production
   - 2.4 describe the structures of the kidney and their role in the formation of urine
     - 2.4.1 connection to the circulatory system (renal vein and artery)
     - 2.4.2 organization (cortex, medulla, pelvis)
   - 2.5 diagram the structure of the nephron
     - 2.5.1 define as the functional unit of the kidney
     - 2.5.2 glomerular (Bowman's) capsule
     - 2.5.3 loop of Henle
     - 2.5.4 proximal convoluted tubule
     - 2.5.5 distal convoluted tubule

2.5.6 blood supply to nephron
2.5.6.1 afferent arteriole
2.5.6.2 glomerular capilliaries
2.5.6.3 efferent arteriole
2.5.6.4 peritubular capillaries

2.6 analyze the formation of urine in each of the structures of the kidney
2.6.1 glomerular filtration as a result of blood pressure
2.6.2 tubular reabsorption and the processes of diffusion, osmosis and active transport
2.6.3 tubular secretion
2.6.4 concentration of urine, including considerations for the movement of ions, permeability of the tubule and role of ADH

2.7 describe the role of the kidney in the regulation of blood pressure
2.7.1 identify the hormones involved in regulating blood pressure
2.7.2 create a feedback diagram of the process that regulates blood pressure

2.8 describe the process of urination
2.8.1 stretch receptors
2.8.2 voluntary and involuntary control

3. evaluate factors that contribute to the promotion and maintenance of a healthy urinary system using multiple case studies

3.1 summarize the role of the urinary system in achieving and maintaining wellness
3.2 explain the role of hydration
3.3 summarize the effects of aging on the function of the urinary system
3.4 predict the effect of lifestyle choices on the wellness of the urinary system, including choices related to cultural beliefs and practices
3.5 recommend preventative lifestyle choices required for urinary wellness
3.5.1 describe the relationship of active living to urinary health
3.5.2 describe the relationship of proper nutrition to urinary health

4. explain the basic pathology and treatment of urinary system conditions using multiple case studies

4.1 summarize the signs and symptoms of common urinary conditions
4.2 summarize causes of urinary system pathologies
4.3 describe diagnostic procedures available for these conditions
4.4 summarize medical and integrative health treatments available for conditions of the urinary system
4.5 summarize the role of dietary management for the treatment and management of various conditions
4.6 describe the impact of pathologies of the urinary system on other body systems
4.7 explain the social, emotional and economic impact of these conditions on the individual, family , peers and the community
4.8 summarize community resources available for people living with urinary system pathologies

5. demonstrate basic competencies

5.1 demonstrate fundamental skills to:
5.1.1 communicate
5.1.2 manage information
5.1.3 use numbers
5.1.4 think and solve problems

5.2 demonstrate personal management skills to:
    5.2.1 demonstrate positive attitudes and behaviours
    5.2.2 be responsible
    5.2.3 be adaptable
    5.2.4 learn continuously
    5.2.5 work safely
5.3 demonstrate teamwork skills to:
    5.3.1 work with others
    5.3.2 participate in projects and tasks

6. identify possible life roles related to the skills and content of this cluster

6.1 recognize and then analyze the opportunities and barriers in the immediate environment
6.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2050: PAIN & PAIN MANAGEMENT

Level: Intermediate

Prerequisites: HES1010: Health & Wellness Fundamentals

Description: Students examine the physiology of pain and the effects of unrelieved pain on the body systems and health and wellness of individuals. Students gain basic knowledge and skills related to the assessment and management of pain and the role of these strategies in promoting health and wellness in personal and health care contexts. Students gain an appreciation for the complexity of pain and the effects of pain on the individual, family, peers and community.

Parameters: Access to a health care professional with experience caring for people who experience pain.

Supporting Course: HES2070: Integrative Health
HES2080: Health Care 1
HES2020: Nervous System & Senses
HES2030: Endocrine System

Outcomes: The student will:

1. analyze basic mechanisms of pain

1.1 define common terms related to pain and pain management using a list of prefixes, roots and suffixes common to terminology related to pain
1.2 compare definitions of pain and pain management
  1.2.1 International Association for the Study of Pain and American Pain Society
  1.2.2 common definitions of pain related to injury
  1.2.3 definitions of pain related to personal experience of pain
  1.2.4 examine cultural beliefs about pain
  1.2.5 differentiate pain from suffering
1.3 differentiate between acute, chronic non-malignant, and cancer pain
1.4 identify factors affecting individual pain tolerance
  1.4.1 competing sensory input
  1.4.2 the aging process
  1.4.3 expectations
  1.4.4 past experiences
  1.4.5 cultural factors
  1.4.6 general health, depression and fatigue
  1.4.7 prospects of a reward or accomplishment
1.5 differentiate between pain threshold and tolerance
1.6 categorize types of pain according to the origin of stimuli (neuropathic vs. nociceptive)
  1.6.1 somatic pain
  1.6.2 visceral pain
  1.6.3 centrally generated pain
  1.6.4 peripherally generated pain
  1.6.5 expectation of duration

1.7 explain the anatomy and physiology of somatic and visceral sensations of pain
- 1.7.1 transduction
- 1.7.2 transmission
- 1.7.3 perception
- 1.7.4 modulation

1.8 explain the physiology of referred pain
1.9 diagram a pain pathway
1.10 explain the anatomy and physiology of neuropathic pain
1.11 justify pain as the most important protective sense, including types of pain that signal a need for immediate medical attention
- 1.11.1 sudden severe headache
- 1.11.2 chest pain
- 1.11.3 severe abdominal pain
- 1.11.4 eye injury or acute changes in vision
- 1.11.5 joint swelling or pain following injury
- 1.11.6 pelvic pain in women
- 1.11.7 sudden, severe back pain with accompanying numbness or loss of bladder or bowel control

1.12 explain the action of endorphins
1.13 explain the possible harmful effects of unrelieved pain on the function of body systems
- 1.13.1 endocrine system
- 1.13.2 metabolic effects
- 1.13.3 cardiovascular system
- 1.13.4 respiratory system
- 1.13.5 genitourinary system
- 1.13.6 digestive system
- 1.13.7 musculoskeletal system
- 1.13.8 cognitive processing
- 1.13.9 immune system and sleep patterns

1.14 examine the possible harmful effects of unrelieved pain
- 1.14.1 on the physical, social and emotional growth and development of children
- 1.14.2 on behavior and relationships with family, friends, health care providers and the community
- 1.14.3 on quality of life in the context of chronic illness and palliative care
- 1.14.4 following medical procedures to the future development of chronic pain syndromes

2. evaluate pain assessment strategies

2.1 justify assessment of pain as the fifth vital sign in a health care setting
2.2 state the purpose of pain rating scales and their use in health care settings
2.3 examine evidence-based misconceptions about pain that are a barrier to effective assessment techniques
- 2.3.1 the importance of clinical opinion vs patient opinion
- 2.3.2 comparable stimuli produce comparable pain responses in people (thresholds and tolerance levels)
- 2.3.3 people with low pain tolerances should make a greater effort to cope instead of seeking medication or more treatment
- 2.3.4 absence of physical basis for pain indicates pain does not exist
- 2.3.5 pain should not be treated until the cause is established
- 2.3.6 visible signs of pain, either physiologic or behavioral, verify the existence and severity of pain
- 2.3.7 anxiety or depression causes pain or makes pain worse

2.3.8 all people who make regular attempts to obtain medication for pain are addicted to the medication
2.3.9 infants and small children do not experience pain or remember pain

2.4 identify words often used to describe pain, including
2.4.1 how the pain feels
2.4.2 how the pain acts
2.4.3 emotional and physical responses

2.5 identify non verbal behaviors that indicate pain the presence of pain
2.5.1 vocalizations
2.5.2 facial expressions
2.5.3 bracing
2.5.4 restlessness
2.5.5 protecting an area of the body
2.5.6 self-soothing movements

2.6 examine beliefs about pain and the control of pain, including beliefs influenced by cultural considerations

2.7 apply the Initial Pain Assessment tool in the context of case studies and simulated role-play

2.8 apply the Brief Pain Inventory tool in the context of case studies and simulated role-play

2.9 apply pain rating scales in the context of case studies and simulated role-play

3. examine pain management strategies for the effective control and relief of pain

3.1 compare the appropriate application of cutaneous stimulation for pain management
3.1.1 safe, effective and appropriate use of heat
3.1.2 safe, effective and appropriate use of cold
3.1.3 safe, effective and appropriate use of vibration and superficial massage

3.2 compare the pain mechanisms affected by acetominophen, NSAID's, and opiod medication

3.3 justify the need for prescription for opiod medication

3.4 examine various complementary and alternative medicine approaches to pain

3.5 examine the role of mental and spiritual health in relation to pain management, including the role of distraction and relaxation techniques

3.6 examine humor as a pain management strategy

3.7 explain the role of sleep in pain management

4. explain the pathology and management strategies for headaches

4.1 differentiate between primary and secondary headaches

4.2 describe three common types of headaches, including causes and symptoms
4.2.1 tension headaches
4.2.2 migraine headaches, including a list of common migraine triggers
4.2.3 cluster headaches
4.2.4 sinus headaches

4.3 outline strategies for managing headache pain for the types of common headaches
4.3.1 summarize rebound headaches or daily headache syndromes
4.3.2 outline methods to treat tension headaches
4.3.3 outline strategies to manage migraine headaches
4.3.4 outline strategies to treat cluster headaches
4.3.5 outline strategies to treat sinus headaches

4.4 list signs and symptoms of a headache that needs immediate medical attention

4.5 recommend strategies to prevent the occurrence of headaches

5. demonstrate basic competencies

5.1 demonstrate fundamental skills to:
- 5.1.1 communicate
- 5.1.2 manage information
- 5.1.3 use numbers
- 5.1.4 think and solve problems

5.2 demonstrate personal management skills to:
- 5.2.1 demonstrate positive attitudes and behaviours
- 5.2.2 be responsible
- 5.2.3 be adaptable
- 5.2.4 learn continuously
- 5.2.5 work safely

5.3 demonstrate teamwork skills to:
- 5.3.1 work with others
- 5.3.2 participate in projects and tasks

6. make personal connections to the cluster content and processes to inform possible pathway choices

6.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences

6.2 create a connection between a personal inventory and occupational choices

COURSE HES2060: INFECTION AND IMMUNITY 3

Level: Intermediate

Prerequisite: HES1090: Infection and Immunity 2

Description: Students acquire knowledge and skills related to the Lymphatic System and the development of acquired immunity that are necessary for achieving and maintaining a healthy immune system. Students gain an appreciation for practicing a healthy lifestyle as it pertains to the individual, family, peers and community.

Supporting Course: HES1070: Cardiovascular System
HES2170: Chronic Conditions
HES3010: Cancer

Outcomes: The student will:

1. **explain basic principles of immunity and the defense systems of the body**
   - 1.1 differentiate between innate immunity (non-specific immunity) and acquired immunity (specific immunity)
   - 1.2 differentiate between humoral immunity and cell-mediated immunity
   - 1.3 describe how acquired immunity is stimulated in the body
     - 1.3.1 active natural immunity
     - 1.3.2 active artificial immunity
     - 1.3.3 passive natural immunity
     - 1.3.4 passive artificial immunity
   - 1.4 describe the mechanism producing an autoimmune response
2. **explain the basic anatomy and functions of the Lymphatic system**
   - 2.1 define common terms related to the lymphatic system and immunity using a list of prefixes, roots and suffixes
   - 2.2 name and locate the structural components of the lymphatic system
     - 2.2.1 lymphatic vessels, including the right lymphatic duct and the thoracic duct
     - 2.2.2 diffuse lymphatic tissue
     - 2.2.3 lymph nodes, including cervical, axillary, tracheobronchial, mesenteric inguinal
     - 2.2.4 lymph nodules, including the lip and tonsils
     - 2.2.5 Peyer's Patches
     - 2.2.6 spleen
     - 2.2.7 thymus gland
     - 2.2.8 appendix
   - 2.3 summarize the functions of the lymphatic system
     - 2.3.1 fluid balance
     - 2.3.2 protection from infection
     - 2.3.3 absorption of fats
   - 2.4 describe the structure and function of a lymph node
   - 2.5 describe the structure and functions of the spleen
   - 2.6 describe the function of the Thymus Gland
   - 2.7 compare the anatomy and function of the Lymphatic System to the Cardiovascular System, including a comparison of
     - 2.7.1 movement between systems
     - 2.7.2 movement of fluids through the system
     - 2.7.3 structure of vessels

2.8 compare the composition of lymph fluid to blood plasma
2.9 describe the function and structure of the reticuloendothelial system

3. **analyze the defensive mechanisms of the immune system related to acquired immunity**
   3.1 describe four types of T cells: Cytotoxic cells, Helper T cells, Regulatory cells, Memory T cells
   3.2 compare the production, structure and function of T-cells, Macropohages and B-cells
   3.3 justify the lymphatic system as a system with "memory"
   3.4 describe the formation of antibodies
   3.5 describe antigens and the purposes of the antigen-antibody relationship
      3.5.1 prevention of attachment
      3.5.2 clumping of antigen
      3.5.3 neutralization of toxins
      3.5.4 help in phagocytosis
      3.5.5 activation of complement
      3.5.6 activation of NK cells
4. describe how vaccines and immune sera stimulate immunity
5. identify several bacterial and viral vaccines and immune sera in history and present day
6. analyze evidence-based research on the efficacy of vaccination program
7. analyze the steps in an allergic response
   7.1 define anaphylaxis
   7.2 recognize signs and symptoms of allergic responses
8. **evaluate factors that contribute to the promotion and maintenance a healthy Lymphatic System using multiple case studies**
   8.1 summarize the role of the Lymphatic System in achieving and maintaining wellness
   8.2 summarize the effects of aging on the function of the Lymphatic System
   8.3 predict the effect of lifestyle choices on the health and wellness of the Lymphatic System, including choices related to cultural beliefs and practices
   8.4 recommend preventative lifestyle choices required for a healthy Lymphatic System
      8.4.1 describe the relationship of active living to a healthy Lymphatic System
      8.4.2 describe the relationship of proper nutrition to a healthy Lymphatic System
9. **explain the basic pathology and treatment of conditions of the Lymphatic System using multiple case studies**
   9.1 summarize the signs and symptoms of common conditions of the Lymphatic System
   9.2 summarize causes of pathologies related to the Lymphatic System, including results of an overstimulated and understimulated immune system
   9.3 describe the roles of the immune system related to cancer
      9.3.1 prevention
      9.3.2 metastasis
      9.3.3 treatment
   9.4 describe diagnostic procedures available for these conditions, including restrictions related to cultural beliefs and practices
   9.5 summarize medical and integrative health treatments available for conditions of the Lymphatic System, including cultural beliefs and practices that influence decisions to obtain treatments
   9.6 summarize the role of dietary management for the treatment and management of various conditions
   9.7 describe the impact of pathologies of the Lymphatic System on other body systems
   9.8 explain the social, emotional and economic impact of these conditions on the individual, family , peers and the community
   9.9 summarize community resources available for people living with pathologies of the Lymphatic System

10.demonstrate basic competencies

- 10.1 fundamental skills
  - 10.1.1 communicate
  - 10.1.2 manage information
  - 10.1.3 use numbers
  - 10.1.4 think & solve problems
- 10.2 personal management skills
  - 10.2.1 demonstrate positive attitudes & behaviours
  - 10.2.2 be responsible
  - 10.2.3 be adaptable
  - 10.2.4 learn continuously
  - 10.2.5 work safely
- 10.3 teamwork skills
  - 10.3.1 work with others
  - 10.3.2 participate in projects & tasks

11.identify possible life roles related to the skills and content of this cluster

- 11.1 recognize and then analyze the opportunities and barriers in the immediate environment
- 11.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2070: INTEGRATIVE HEALTH

Level: Intermediate

Prerequisite: HES1010: Health & Wellness Fundamentals

Description: Students examine the foundations, applications, costs, issues and future of integrative health. Students analyze complementary and alternative therapies and their role in health care, palliative care, preventative health care, and personal health and wellness.

Parameters: Access to a variety of providers of complementary and alternative therapies is strongly recommended.

Note: This module includes concepts that may be particularly sensitive to students, parents, or community members

Supporting Courses: HES2050: Pain & Pain Management
HES2170: Chronic Conditions

Outcomes: The student will:

1. **analyze the current roles of complementary and alternative therapies in health care, palliative care, preventative health care, and personal health and wellness**
   - 1.1 differentiate between conventional medicine and complementary and alternative therapies
   - 1.2 differentiate between:
     - 1.2.1 alternative medical systems
     - 1.2.2 mind-body medicine
     - 1.2.3 biologically based therapies
     - 1.2.4 manipulative and body-based methods
     - 1.2.5 energy therapies
   - 1.3 describe the predominant principles and philosophies of these therapies
   - 1.4 describe the model of integrative health practice
   - 1.5 describe several examples of an integrative health model
   - 1.6 list several government, educational and professional organizations associated with the above therapies and integrative health
2. **analyze issues and considerations surrounding the use of complementary and alternative therapies in health care, palliative care, preventative health care, and personal health and wellness using case studies**
   - 2.1 compare beliefs about health and illness in various cultures
   - 2.2 examine personal beliefs and practices, including the cultural factors contributing to these beliefs and practices
   - 2.3 summarize the acceptance of complementary and alternative therapies in different countries and different cultures
   - 2.4 compare the possible benefits and risks of complementary and alternative therapies to the consumer and their family and community
   - 2.5 summarize ethical issues related to complementary and alternative therapies
   - 2.6 summarize ethical issues related to the practice of integrative health

2.7 explain how to evaluate sources of information regarding complementary and alternative therapies, including:
  2.7.1 websites
  2.7.2 practitioners
  2.7.3 written publications
2.8 describe current trends in health care related to complementary and alternative therapies and an integrative health model

3. research and evaluate a specific complementary or alternative therapy

3.1 describe the background of the therapy, including relevant cultural history
3.2 describe how the therapy is performed and related techniques
3.3 describe the rationale for the therapy
3.4 list conditions which frequently cause people to seek and receive the therapy
3.5 compare risks and benefits of the therapy to the individual receiving the therapy, his/her family and the community
3.6 describe the reliability of the therapy, including an overview of any evidence-based research that exists
3.7 identify consumer issues related to the therapy including the length of time suggested for the therapy and typical costs associated with the therapy
3.8 identify prevalence and availability of practitioners of the therapy and any possible credentialing organizations that exist
3.9 identify available resources used to research the therapy

4. demonstrate basic competencies

4.1 demonstrate fundamental skills to:
  4.1.1 communicate
  4.1.2 manage information
  4.1.3 use numbers
  4.1.4 think and solve problems
4.2 demonstrate personal management skills to:
  4.2.1 demonstrate positive attitudes and behaviours
  4.2.2 be responsible
  4.2.3 be adaptable
  4.2.4 learn continuously
  4.2.5 work safely
4.3 demonstrate teamwork skills to:
  4.3.1 work with others
  4.3.2 participate in projects and tasks

5. identify possible life roles related to the skills and content of this cluster

5.1 recognize and then analyze the opportunities and barriers in the immediate environment
5.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2080: HEALTH CARE 1

Level: Intermediate

Prerequisite: HES1010: Health & Wellness Fundamentals

Description: Students identify and demonstrate the skills necessary to provide personal care services for individuals.

Outcomes: The student will:

1. **evaluate the basic needs of the client and the client's family**
   - 1.1 describe the typical needs of the client and client's family
   - 1.2 describe methods of obtaining information about the client
   - 1.3 describe caring, respect and respectful behaviour using examples
   - 1.4 explain the reasons for knowing about the client and the importance of the client's family and significant others
   - 1.5 justify the need to maintain confidentiality when dealing with the client's personal information
   - 1.6 recommend strategies to enhance and maintain the client's personal wellness and self-esteem
2. **evaluate the roles, rights and responsibilities of the health care provider**
   - 2.1 describe common rules to follow with clients and explain standard precautions
   - 2.2 describe a typical job description of a Health Care Aide
   - 2.3 justify the purpose and rationale for establishing interdisciplinary health care teams
   - 2.4 explain the role limits of the Health Care Aide
   - 2.5 describe the employment contract and letter of agreement
   - 2.6 explain the attitudes that enhance the role of the Health Care Aide
   - 2.7 demonstrate best practices and protocols for expected personal hygiene, health and wellness in the role of Health Care Aide
3. **evaluate regulations and legislation governing the health care provider**
   - 3.1 summarize knowledge of applicable legislation
   - 3.2 justify the basic human rights of employees
   - 3.3 justify the basic human rights of the client
   - 3.4 demonstrate ability to access information available in employer policy and procedure manuals
   - 3.5 summarize important information from employer policies and procedure manuals
4. **demonstrate effective personal care recording and reporting procedures**
   - 4.1 describe the materials and manuals required to complete everyday tasks and where to find the information in applicable manuals
   - 4.2 describe reporting protocols used in the health care field
   - 4.3 demonstrate how to use some of the recording tools for communicating between members of the health care team
   - 4.4 explain the principles of preparing written reports
   - 4.5 describe how to prepare reports on client status and incidents
5. **demonstrate basic competencies**
   - 5.1 demonstrate fundamental skills to:
     - 5.1.1 communicate
     - 5.1.2 manage information
     - 5.1.3 use numbers
     - 5.1.4 think and solve problems
   - 5.2 demonstrate personal management skills to:
     - 5.2.1 demonstrate positive attitudes and behaviours

5.2.2 be responsible
5.2.3 be adaptable
5.2.4 learn continuously
5.2.5 work safely

5.3 demonstrate teamwork skills to:
5.3.1 work with others
5.3.2 participate in projects and tasks

6. identify possible life roles related to the skills and content of this cluster

6.1 recognize and then analyze the opportunities and barriers in the immediate environment

6.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2090: NURTURING CHILDREN

Level: Intermediate

Prerequisite: HES1010: Health & Wellness Fundamentals

Description: Students examine the developmental characteristics of toddlers, preschoolers and school-aged children in various stages of physical, emotional, social and intellectual development. Students describe and demonstrate care giving skills applicable to each developmental stage. Students gain an appreciation for the importance of nurturing skills to promote health and wellness in childhood.

Parameters: No specialized equipment or facilities.

Supporting Courses: HES3090: Child Care First Aid
HES1100: Communicating Skills for Helping Relationships

Outcomes: The student will:

1. **demonstrate strategies for nurturing healthy physical growth and development for toddlers, preschoolers and school-aged children using multiple case studies and relevant personal experiences**
   - 1.1 compare the physical growth and developmental milestones of toddlers, preschoolers and school-aged children, including identification of
     - 1.1.1 average weights and heights for males and females
     - 1.1.2 fine motor and gross motor development
     - 1.1.3 onset of puberty and growth spurts
   - 1.2 describe normal variations in physical growth and development
   - 1.3 justify the need for early intervention for possible developmental delays
   - 1.4 describe developmental milestones that indicate readiness for independent activity and self-care for children such as readiness for toileting, dental care and bathing independently, eating independently, basic movement skills
   - 1.5 recommend appropriate and safe activities for promoting fine motor and gross motor development for toddlers, preschoolers, and school-aged children
   - 1.6 recommend strategies for promoting healthy nutrition for toddlers, preschoolers and school-aged children, including
     - 1.6.1 serving sizes
     - 1.6.2 frequency of snacks and meals
     - 1.6.3 hydration
     - 1.6.4 balanced intake of food groups
     - 1.6.5 foods to avoid
     - 1.6.6 introducing new foods to toddlers
     - 1.6.7 encouraging independent feeding for toddlers
     - 1.6.8 encouraging wise food choices
   - 1.7 select appropriate clothing for toddlers, preschoolers and school-aged children considering durability, comfort, laundering, economy, children's preferences and ability for children to dress independently
2. **demonstrate strategies for nurturing healthy emotional development for toddlers, preschoolers and school-aged children using multiple case studies and relevant personal experiences**
   - 2.1 compare common emotional expressions of toddlers, preschoolers and school-aged children, including responses to feelings of

2.1.1 love and affection
2.1.2 anger
2.1.3 fear
2.1.4 jealousy
2.1.5 various other emotions

2.2 summarize Erikson's stages of development in relation to positive emotional growth and development of children

2.3 compare the developmental needs for independence of toddlers, preschoolers and school-aged children

2.4 describe strategies for responding to a child's emotions through modeling and teaching that promote healthy emotional development, including considerations for different cultural beliefs and practices for
2.4.1 receiving affection appropriately
2.4.2 giving affection appropriately
2.4.3 managing and preventing temper tantrums
2.4.4 mature strategies for handling anger towards others or self
2.4.5 preventing fear by dispelling myths and teaching accurate information
2.4.6 coping with fear due to imagination and stress
2.4.7 understanding inequalities in life
2.4.8 developing an appreciative and generous attitude

2.5 describe strategies for supporting a child's self-esteem while developing respect for others' needs, including considerations for different cultural beliefs and practices for
2.5.1 offering praise appropriately
2.5.2 correcting misbehavior through positive guidance
2.5.3 communicating acceptance when correcting misbehavior
2.5.4 maintaining involvement in children's activities
2.5.5 modeling and teaching empathy
2.5.6 avoiding criticism

2.6 justify demonstration of unconditional love and acceptance as an integral part of guiding children's behavior and promoting health and wellness

2.7 design activities for toddlers, preschool and school-aged children to encourage appropriate independent skill development by
2.7.1 modifying the environment to facilitate success
2.7.2 planning for opportunities for guided and independent practice
2.7.3 preparing questions to encourage reasoning and problem-solving
2.7.4 identifying ways to acknowledge successful approximation

2.8 describe signs of stress and depression in children

2.9 recommend strategies to prevent stress for toddlers, pre-school and school-aged children

3. demonstrate strategies for nurturing healthy social development for toddlers, preschoolers and school-aged children using multiple case studies and relevant personal experiences

3.1 define socialization

3.2 describe factors that contribute to the process of socialization, including modelling, imitation, direct teaching and guidance

3.3 compare common patterns of social growth of toddlers, preschoolers and school-aged children, including considerations for individual differences as well as cultural beliefs and practices
3.3.1 gender roles and identity
3.3.2 parallel and cooperative play
3.3.3 cooperative and competitive activities
3.3.4 peer approval

3.4 describe strategies for helping social development within the context of family, including considerations for individual differences as well as cultural beliefs and practices
- 3.4.1 overcoming separation anxiety
- 3.4.2 responding to sibling conflict and rivalry for attention
- 3.4.3 involving grandparents and other relatives

3.5 demonstrate strategies for teaching manners to toddlers, pre-school and school-aged children, considering cultural beliefs and practices

3.6 describe strategies for teaching and encouraging developmentally appropriate basic lessons in friendship for toddlers, preschoolers and school-aged children, including considerations for cultural beliefs and practices
- 3.6.1 taking turns, sharing and managing conflict
- 3.6.2 managing concerns related to popularity and peer pressure
- 3.6.3 participating in cooperative and competitive games

3.7 recognize cruelty to animals as an indicator of unhealthy socialization that may require professional intervention

4. demonstrate strategies for nurturing intellectual development for toddlers, preschoolers and school-aged children using multiple case studies and relevant personal experiences

4.1 summarize evidence-based research describing relationship of environment to brain development, including prenatal, nutritional and sensory considerations

4.2 summarize theories related to intellectual development, including the Theory of Mulitple Intelligences and Piaget's Stages of Cognitive Development

4.3 describe strategies to teach children basic concepts in everyday activities, including strategies for classifying objects, identifying shapes, and developing basic numeracy

4.4 describe strategies to promote thinking skills, including strategies for memory, curiosity, reasoning and problem-solving, creativity and imagination,

4.5 describe strategies to promote language development, including strategies for building vocabulary, and skill development for listening, reading and writing

5. demonstrate strategies for promoting positive play experiences for toddlers, preschoolers and school-aged children using multiple case studies and relevant personal experiences

5.1 describe the benefits and purpose of play for physical, emotional, social, and intellectual development

5.2 describe strategies for creating a safe and inviting play environment

5.3 select appropriate toys for children based on safety and considerations for enhancing development

5.4 evaluate strategies for enhancing play experiences, including
- 5.4.1 identifying reasons and methods for making play a priority
- 5.4.2 strategies for facilitating active and quiet play
- 5.4.3 differentiating between appropriate and inappropriate use of computer and electronic games
- 5.4.4 strategies for promoting and supporting drama, art and music

5.5 summarize considerations for television, including time and quality of content

6. describe basic safety precautions to prevent and manage common accidents and illnesses

6.1 define the term accident

6.2 list common injuries and accidents that occur for toddlers, preschoolers and school-aged children

6.3 identify possible hazards that can cause accidents with children, including hazards commonly found in rooms of a home and surrounding yard and environment

6.4 describe safety precautions for travelling in motor vehicles and preventing falls

6.5 outline age- appropriate guidelines to teach children for handling emergencies,

6.6 recognize signs and symptoms of common illnesses, including colds, ear infections, influenza, sore throats, and allergies
6.7 recognize signs and symptoms of common medical childhood emergencies requiring urgent medical attention, including anaphylactic shock, head and neck injuries, hypothermia and heat exhaustion
6.8 Summarize signs and symptoms of four types of abuse including physical, emotional, neglect, sexual abuse
6.9 Summarize considerations for reporting child abuse
6.10 differentiate between the roles and responsibilities of child care providers, parents and medical personnel in managing and treating illness and injuries

7. demonstrate basic competencies

7.1 demonstrate fundamental skills to:
- 7.1.1 communicate
- 7.1.2 manage information
- 7.1.3 use numbers
- 7.1.4 think and solve problems

7.2 demonstrate personal management skills to:
- 7.2.1 demonstrate positive attitudes and behaviours
- 7.2.2 be responsible
- 7.2.3 be adaptable
- 7.2.4 learn continuously
- 7.2.5 work safely

7.3 demonstrate teamwork skills to:
- 7.3.1 work with others
- 7.3.2 participate in projects and tasks

8. identify possible life roles related to the skills and content of this cluster

8.1 recognize and then analyze the opportunities and barriers in the immediate environment
8.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2100: NUTRITION FOR RECREATION ACTIVITIES & SPORT

Level: Intermediate

Prerequisite: None

Description: Students explain the role of food and hydration to help individuals achieve optimal physical performance for recreational physical activities and sport. Students acquire knowledge and skills to plan effectively for nutrition and hydration related to a variety of recreational activities and athletic events. Students examine food labeling and the role of recreation leaders and coaches related to promoting nutrition for performance.

Parameters: **Note:** Access to instruction from an individual with formal, specialized training in Nutrition for Athletes is preferred.

Note: Successful completion of this module may lead to *two possible certifications.* First, successful students may be eligible for a Sports Nutrition Certificate from the Sports Medicine Council of Alberta if the requirements for certification are fulfilled, if the instructor is certified by the Sports Medicine Council of Alberta with a Sports Nutrition Certificate, and if their school is *member school* that meets the Council's requirements.
Secondly, if the course is taught by a teacher who is a certified NCCP Learning Facilitator, successful completion of the course may lead to NCCP recognition of training in the NCCP Nutrition module. Students must be at least sixteen years of age upon completion of the course and students and teachers must complete the NCCP registration form required to complete the data entry process.

Supporting Course: FOD1010: Food Basics
HES1020: Nutrition & Wellness

Outcomes: The student will:

1. **explain the role of food and nutrients related to physical performance in recreational and athletic activities**
   - 1.1 relate "Eating Well with Canada's Food Guide" to achievement of optimal nutrition for physical activity and performance
   - 1.2 explain considerations for caloric intake to fuel athletic and recreational physical activity
     - 1.2.1 define a calorie as a unit of measure
     - 1.2.2 compare caloric values for carbohydrates, proteins, fat and other common drinks
     - 1.2.3 compare caloric values for a variety of physical activities related to athletic performance, recreation, and activities of daily living
     - 1.2.4 calculate personal daily caloric requirements, using measures for
       - 1.2.4.1 resting metabolic rate
       - 1.2.4.2 daily activity level (sedentary, moderately active, very active)
       - 1.2.4.3 amount of calories burned during purposeful exercise

1.2.5 predict daily caloric requirements for a variety of individuals based on case studies
1.2.6 describe factors effecting caloric needs of individuals
1.2.6.1 age
1.2.6.2 height
1.2.6.3 weight
1.2.6.4 gender
1.2.6.5 amount of body muscle
1.2.6.6 amount of daily physical activity

1.3 describe the role of digestion, absorption and metabolism in the utilization of nutrients in food

1.4 compare the energy requirements related to physical activity in a variety of recreational and athletic activities and training programs
1.4.1 carbohydrate requirements for optimal nutrition
1.4.2 protein requirements for optimal nutrition

1.5 relate energy release systems in the body to the nature of physical activity and to nutrient availability, including:
1.5.1 availability and use of glucose and glycogen
1.5.2 aerobic versus anaerobic energy systems
1.5.3 intensity and duration of physical activity
1.5.4 carbohydrate content in the diet
1.5.5 fat content in diet
1.5.6 impact of training on energy utilization

1.6 explain protein structure and function within the context of muscle development

1.7 justify the role of nutrition as a key factor in enhancing physical and athletic performance

1.8 explain other important considerations for the dietary intake, including deficiencies among certain groups of athletes
1.8.1 calcium
1.8.2 zinc
1.8.3 iron
1.8.4 fibre

1.9 describe normal and/or ideal body composition considering the demands of specific activities

2. demonstrate strategies for achieving optimal nutrition for recreational and athletic activity using a variety of case studies

2.1 describe the minimal nutritional objectives for a variety of diets to support athletic training
2.1.1 for athletes in judged sports
2.1.2 for most athletes, including team sports
2.1.3 for endurance athletes

2.2 compare the impact of short duration and endurance events on nutritional needs

2.3 describe factors that influence the eating patterns for recreational and athletic activity, including:
2.3.1 psychological needs (i.e. competition anxiety)
2.3.2 taboos and superstitions
2.3.3 cultural considerations, including beliefs and practices
2.3.4 acceptability of food
2.3.4.1 personal preferences
2.3.4.2 familiar versus unfamiliar foods

2.3.5 availability of foods
2.3.5.1 eating “on the road”
2.3.5.2 fast foods
2.3.5.3 restaurants

2.4 relate the impact of eating patterns to nutritional status

2.5 describe methods of maintaining and enhancing nutritional status, within the constraints imposed by various eating patterns

2.6 justify the timing of food intake based on time available between activities and the size of the meal or snack
2.6.1 meals of 500-800 kcal
2.6.2 meals of 300-500 kcal
2.6.3 small snack or blender/liquid meal

2.7 describe nutritional considerations for optimal recovery after strenuous activity
2.7.1 carbohydrate intake
2.7.2 protein intake
2.7.3 fat intake
2.7.4 salt intake
2.7.5 potassium intake

2.8 describe causes of muscle cramping related to diet and hydration

2.9 design strategies for altering energy balance in order to achieve healthy weight loss and weight gain
2.9.1 identify personal BMI for optimal weight
2.9.2 compare the effectiveness of BMI vs percentage fat and skin fold measures
2.9.3 recognize signs and symptoms of eating disorders in sport
2.9.4 examine trends in eating disorders in sport
2.9.5 explain the effects of the female athlete triad related to long-term health and wellness
2.9.6 justify the importance of professional dietary guidance for athletes
2.9.7 outline SMART goal setting

3. demonstrate effective strategies for hydration during recreational and athletic activity using a variety of case studies

3.1 log liquid intake in a day

3.2 classify various liquids as hydrating or dehydrating fluid intake

3.3 explain factors influencing sweat rates

3.4 justify the importance of hydration related to
3.4.1 replacement of water lost from sweating
3.4.2 enhancing performance
3.4.3 maintaining core temperature
3.4.4 gastric cramping
3.4.5 fatigue
3.4.6 bottled water vs. tap water
3.4.7 climate

3.5 evaluate the sensation of thirst as an indicator of dehydration

3.6 justify the timing and amount of fluid intake
3.6.1 before recreational or athletic activity
3.6.2 during recreational or athletic activity, including hyponatremia
3.6.3 after recreational or athletic activity

3.7 describe considerations for the use of sport drinks for hydration
3.7.1 duration of activities
3.7.2 encouraging hydration with children

3.8 interpret the color and volume of urinary output as a measure of hydration

4. plan meals and snacks for a variety of activities using a variety of case studies

- 4.1 demonstrate accurate portion control
- 4.2 plan and evaluate foods, snacks, meals and diets for achieving optimal nutrition to satisfy athletes needs for:
  - 4.2.1 easy access to hydration
  - 4.2.2 pre-event nutrition
  - 4.2.3 nutrition during event
  - 4.2.4 post-event nutrition
  - 4.2.5 pre-event nutrition when eating “on the road”
  - 4.2.6 nutrition for promoting recovery
    - 4.2.6.1 correlating grams of carbohydrate related to body weight
    - 4.2.6.2 list optimal food choices that contain approximately 50 grams of carbohydrates
    - 4.2.6.3 list optimal food choices that contain approximately 50 grams of carbohydrates and 10 grams of protein
- 4.3 justify a list of foods, snacks and drinks to avoid before recreational or athletic activities
- 4.4 recommend strategies to prevent muscle cramps
- 4.5 summarize general food safety advice, including handling and storage of
  - 4.5.1 hot foods
  - 4.5.2 cold foods
  - 4.5.3 refrigeration of mayonnaise and egg
  - 4.5.4 time between preparation and consuming

5. interpret nutrition information and misinformation directed to active living

- 5.1 compare foods using nutrition labeling
- 5.2 identify criteria for evaluating nutrition information and misinformation
- 5.3 evaluate nutrition information and misinformation directed toward athletes
  - 5.3.1 advertising that promotes commercial products and trends in sports nutrition including
    - 5.3.1.1 vitamin and mineral supplementation
    - 5.3.1.2 amino acid supplements
    - 5.3.1.3 sports drinks
    - 5.3.1.4 protein supplementation
    - 5.3.1.5 energy drinks
    - 5.3.1.6 carbohydrate supplementation
  - 5.3.2 nutritional ergogenic (performance enhancing) aids; e.g., bee pollen
  - 5.3.3 promotion of diets that eliminate certain foods; e.g., beef, milk

6. justify considerations for the appropriate role of coaches and recreation leaders related to nutrition

- 6.1 recognize the influential role of a coach and/or recreation leader from the perspective of parents and/or athletes and participants
- 6.2 summarize appropriate topics to discuss with parents and/or athletes and participants
  - 6.2.1 importance of good diet and hydration
  - 6.2.2 recommend simple steps useful for planning general nutrition for physical activity and performance
- 6.3 justify topics to avoid in conversation with parents, athletes and participants
  - 6.3.1 weight management
  - 6.3.2 special diets
  - 6.3.3 recommending commercial products
  - 6.3.4 combining foods based on glycemic index
  - 6.3.5 vegetarianism
  - 6.3.6 eating disorders

7. demonstrate basic competencies

7.1 demonstrate fundamental skills to:
- 7.1.1 communicate
- 7.1.2 manage information
- 7.1.3 use numbers
- 7.1.4 think and solve problems

7.2 demonstrate personal management skills to:
- 7.2.1 demonstrate positive attitudes and behaviours
- 7.2.2 be responsible
- 7.2.3 be adaptable
- 7.2.4 learn continuously
- 7.2.5 work safely

7.3 demonstrate teamwork skills to:
- 7.3.1 work with others
- 7.3.2 participate in projects and tasks

8. make personal connections to the cluster content and processes to inform possible pathway choices

8.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences

8.2 create a connection between a personal inventory and occupational choices

COURSE HES2110: RECREATION LEADERSHIP

Level: Intermediate

Prerequisite: HES1130: Injury Management 1
HES2010: First Aid/CPR with AED

Description: Students learn basic skills and developmental principles for teaching recreation activities to children and youth. Knowledge and skills are then applied to the teaching of foundational movement concepts. Students develop an appreciation for the roles and responsibilities of recreation leaders and coaches in community recreation programs.

Parameters: Access to sports teams in the school and/or community is necessary. This course must be taught by a teacher with a background in physical education and coaching. If this course is taught as a part of a credentialed pathway, the teachers of the course must be certified or trained by the credentialing bodies.

Note: This course is an introductory course leading to possible recognition by the AFLCA as an Ever Active Kids Leader or NCCP recognition for a movement skills module or both providing the parameters of the organizations are met.
If the course is taught by a teacher who is a certified NCCP Learning Facilitator, successful completion of the course may lead to NCCP recognition of training in the NCCP module: Fundamental Movement Skills providing the students are at least sixteen years of age upon completion of the course and the teacher and students complete the NCCP registration form required to complete the data entry process.

Supporting Course: HES Project Course
HES2090: Nurturing Children
HES2160: Community Volunteerism
HES1100: Communication Skills for Helping Relationships

Outcomes: The student will

1. evaluate the basic roles and responsibilities of a recreation leader
- 1.1 explain the importance of a holistic view of children and youth in recreation settings
- 1.2 analyze the Ever Active Kids Model to recreation activities using personal experience and case-studies
  - 1.2.1 describe the central focus of the model based in research
  - 1.2.2 apply the concept of individual perceptions, including perceived competence and perceived benefit and/or cost
  - 1.2.3 apply the concept of social influences
  - 1.2.4 apply the concept of physical supports
  - 1.2.5 apply the concept of personal demographics
  - 1.2.6 justify how individual differences will influence a child's perception of and affective response to a recreation activity
- 1.3 recognize indicators of low self esteem in participants

1.4 analyze key factors of motivation for youth and children in sports and physical activity using personal experiences and case studies
  1.4.1 define motivation and amotivation, including a description of intrinsic and extrinsic motivation
  1.4.2 apply a definition of motivation to the involvement of children and youth in sport and recreation
  1.4.3 apply the components needed to create a Mastery Motivational climate, including considerations for
    1.4.3.1 task
    1.4.3.2 authority
    1.4.3.3 recognition
    1.4.3.4 grouping
    1.4.3.5 evaluation
    1.4.3.6 time
  1.4.4 recognize culture as a component of motivation and desire to participate in recreation activities
1.5 explain the concept of Fair Play and the Do No Harm Principle

2. demonstrate basic principles of effective instruction when leading an activity or analyzing case studies

2.1 state key considerations for giving instructions
2.2 list general tips for helping children and youth develop self-esteem
2.3 list children's perceptions of adult leaders, teachers and coaches based on recent research
2.4 vary instructional styles, including direct instruction, indirect instruction and limited instruction
2.5 shape communication effectively
2.6 monitor progress of participants
2.7 monitor for on-task behavior
2.8 give feedback
2.9 be flexible
2.10 demonstrate effective communication strategies
  2.10.1 describe personal communication style
  2.10.2 identify personal non-verbal communication that affect communication with others
  2.10.3 demonstrate active listening skills when leading activities or during role-playing scenarios and/or case studies
  2.10.4 describe considerations for controlling environmental distractions
  2.10.5 list general considerations to improve interpersonal communication
  2.10.6 list key considerations for giving feedback in recreation and coaching contexts

3. evaluate learning styles to maximize instruction

3.1 summarize the characteristics of visual, auditory and kinesthetic learners, including common vocabulary based on learning style
3.2 evaluate personal learning style, including specific considerations for adapting personal learning style for effective instruction and communication with athletes and participants
3.3 interpret observations of athlete and participants based on learning styles
3.4 recommend teaching methods to address learning styles

4. evaluate stages of development in childhood, adolescence and adults as they apply to recreation planning

4.1 summarize specific considerations for development and gender for children and youth ages 3-5, 6-7, 8-9, 10-11, 12-15 and 16-17, including
  4.1.1 psychosocial development
  4.1.2 cognitive development

4.1.3 perceptual development
4.1.4 physical development
4.1.5 preferences for activities

4.2 summarize specific considerations for development and gender for participants aged 18 and older

4.3 recommend specific adaptations to activities and instructional methods based on development considerations for all age groups

4.4 justify a developmental perspective for teaching physical activities to children that is
4.4.1 qualitative
4.4.2 individually variable
4.4.3 sequential
4.4.4 cumulative
4.4.5 directional
4.4.6 multifactorial

5. lead movement activities and experiences using appropriate knowledge and skills to teach locomotor, non-locomotor and manipulative skills

5.1 justify the importance of fundamental movements as the building blocks for all sport skills in children

5.2 define physical literacy

5.3 categorize generic movement skills to teach into three categories:
5.3.1 locomotor skills, running, hopping, skipping, vertical and horizontal jump non-locomotor skils, manipulative skills

5.4 outline the three phases of skill development with generic movement skills: initial phase, formative phase, mature phase

5.5 outline the four movement concepts and their sub-concepts
5.5.1 body concepts
5.5.2 spatial concepts
5.5.3 effort concepts
5.5.4 relationship concepts

5.6 apply important principles of movement instruction when leading activities
5.6.1 describe the characteristics of mature form for each skill
5.6.2 demonstrate each skill effectively
5.6.3 predict common areas to observe during instruction
5.6.4 recommend tips for helping children learn to run
5.6.5 create games to practice skills
5.6.6 move to a suitable location to observe skill development
5.6.7 identify preparation force production, critical instant and follow-through/recovery with various movement skills
5.6.8 communicate effectively during instruction
5.6.9 provide effective feedback on skill development

5.7 lead movement skill instruction activities for generic movement skills including
5.7.1 locomotor skills: running, hopping, skipping, vertical and horizontal jump
5.7.2 non-locomotor skills: ready position, stride-stop, dodging, jump stopping
5.7.3 manipulative skills: underhand and overhand throwing, ball bouncing, catching and absorbing force, kicking, striking horizontally and balancing

6. demonstrate basic competencies

6.1 demonstrate fundamental skills to:
6.1.1 communicate
6.1.2 manage information
6.1.3 use numbers
6.1.4 think and solve problems

6.2 demonstrate personal management skills to:
- 6.2.1 demonstrate positive attitudes and behaviours
- 6.2.2 be responsible
- 6.2.3 be adaptable
- 6.2.4 learn continuously
- 6.2.5 work safely

6.3 demonstrate teamwork skills to:
- 6.3.1 work with others
- 6.3.2 participate in projects and tasks

7. identify possible life roles related to the skills and content of this cluster

7.1 recognize and then analyze the opportunities and barriers in the immediate environment

7.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2120: EVER ACTIVE AGING LEADERSHIP

Level: Intermediate

Prerequisite: HES1040: Musculoskeletal System 1
HES1070: Cardiovascular System
HES2010: First Aid/CPR with AED

Description: Students learn principles of Ever-Active Leadership and strategies for developing active living programs within seniors' facilities. Students will focus on four areas of knowledge and skill development to prepare them to work with seniors in facilities: special conditions of aging that are common to facility residents, safety considerations for activities, programming considerations and ways to access and connect with community resources and organizations to support programming.

Parameters: Access to a senior's facility with an active living coordinator. Teachers must have a background in physical education and/or kinesiology and must meet the training requirements of the Alberta Provincial Fitness Unit.

Supporting Course: HES Project Course
HES1100: Communication Skills for Helping Relationships
HES3060: Aging & Frailty
HES2020: Nervous System & Senses
HES2030: Endocrine System
HES2170: Chronic Conditions

Outcomes: The student will

1. evaluate the roles, responsibilities and basic principles of Ever Active Leadership in the context of a seniors' facility

- 1.1 outline the qualities of an effective Active Living Coordinator, including considerations for reflective practice and ongoing professional development
- 1.2 define active living based on the definitions from the Public Health Agency of Canada and Canada's Physical Activity Guide for Older Adults
- 1.3 justify active living as a preventative wellness strategy for older adults
  - 1.3.1 summarize the benefits of active living, including physical, emotional and social benefits as noted by several recognized organizations
  - 1.3.2 summarize the risk factors associated with a sedentary lifestyle as noted in research cited by several recognized organizations
- 1.4 summarize reasons to promote an active living facility, including reasons related to:
  - 1.4.1 fiscal considerations
  - 1.4.2 physical health of residents
  - 1.4.3 emotional health of residents
  - 1.4.4 social integration with community
  - 1.4.5 development of community within the facility
- 1.5 analyze Canada's Physical Activity Guide for Older Adults and related resources
  - 1.5.1 summarize the history of the development of the guide
  - 1.5.2 state the purpose of the guide
  - 1.5.3 summarize research presented in the guide

1.5.4 explain the guide's recommendations for physical activity to improve
1.5.4.1 endurance
1.5.4.2 flexibility
1.5.4.3 strength

1.6 summarize the nutritional needs of aging adults based on Canada's Food Guide

1.7 evaluate the twelve determinants of health as noted by Health Canada
1.7.1 summarize the significance of each determinant
1.7.2 justify the ranking of the determinants
1.7.3 justify the significance of the determinants to the development of an active living facility

1.8 define functional independence

1.9 justify the importance of each component of functional independence to overall health and wellness of older adults
1.9.1 strength
1.9.2 muscular endurance
1.9.3 cardiovascular endurance
1.9.4 flexibility
1.9.5 balance and coordination

1.10 explain strategies for building and sustaining community relationships and collaboration

1.11 outline legislated standards that affect active living programming in a facility

2. demonstrate leadership strategies for active living opportunities through case studies and within the context of a seniors' facility

2.1 summarize the physiological basis and signs and symptoms of common special health conditions related to aging experienced by residents, including:
2.1.1 arthritis
2.1.2 osteoporosis
2.1.3 cardiovascular disease
2.1.4 dementia
2.1.5 diabetes, including type I and type II
2.1.6 alzheimer's disease
2.1.7 vision loss
2.1.8 hearing loss
2.1.9 asthma

2.2 apply effective behavior change strategies to motivate residents and increase compliance

2.3 demonstrate safe practices when planning and leading physical activity opportunities for residents
2.3.1 demonstrate effective assessment practices to minimize risk and create a safe environment
2.3.2 demonstrate effective monitoring strategies to minimize risk and create a safe environment

2.4 demonstrate effective strategies when planning and leading physical activity opportunities
2.4.1 include strategies for all components of a session
2.4.2 warm-up
2.4.2.1 activity
2.4.2.2 cool-down
2.4.3 demonstrate strategies for individual activities for residents, including activities that focus on building:
2.4.3.1 endurance
2.4.3.2 flexibility
2.4.3.3 strength

2.4.4 demonstrate strategies for group activities for residents, including activities that focus on building
2.4.4.1 endurance
2.4.4.2 flexibility
2.4.4.3 strength

2.5 modify physical activity plans to adapt to needs of participants
2.5.1 modify plans based on general recommendations for physical activity for older adults with special conditions
2.5.2 modify plans based on specific recommendations for physical activity for older adults with special conditions, including:
2.5.2.1 arthritis
2.5.2.2 osteoporosis
2.5.2.3 cardiovascular disease
2.5.2.4 dementia
2.5.2.5 diabetes, including type I and type II
2.5.2.6 alzheimer's disease
2.5.2.7 vision loss
2.5.2.8 hearing loss
2.5.2.9 asthma
2.5.3 modify planning and activities based on results of observations, assessments and monitoring of participants during and after physical activity

3. demonstrate programming skills for developing and improving an active living program in a seniors' facility based on case studies and within the context of a facility

3.1 summarize general programming recommendations for each of the components of functional independence
3.2 demonstrate skills for asset mapping
3.2.1 define terms related to asset mapping
3.2.1.1 asset map
3.2.1.2 assets
3.2.1.3 gifts
3.2.1.4 talents
3.2.1.5 inventory
3.2.1.6 resources
3.3 create an asset map, including categories to address characteristics of program participants, including
3.3.1 practical skills
3.3.2 talents and interests
3.3.3 interpersonal experiences
3.3.4 functional abilities
3.3.5 formal and informal training
3.3.6 occupational background
3.3.7 personal background
3.4 share asset map results effectively with appropriate individuals
3.5 demonstrate effective skills to create community support and connections for an active living program in a facility
3.5.1 summarize tips of communicating effectively with
3.5.1.1 residents
3.5.1.2 family members of residents
3.5.1.3 health care providers
3.5.1.4 facility staff

3.5.2 implement one strategy to improve community awareness and support for an active living program in seniors' facility

3.6 demonstrate effective strategies to educate community members and residents about the importance of active living programming
- 3.6.1 list methods to advertise and educate the importance of active living
- 3.6.2 describe barriers to physical activity expressed by residents and other community members
- 3.6.3 list evidence-based research facts that support the importance and document the level of risk associated with active living opportunities for residents
- 3.6.4 list methods to dispel myths about safety and physical activity in seniors' facilities
  - 3.6.4.1 methods to dispel myths with residents
  - 3.6.4.2 methods to dispel myths with key individuals in residents' social network

3.7 interview an active living program coordinator about managing a quality program
- 3.7.1 describe ways to find funding for an active living program
- 3.7.2 outline facility policies about programming and operations that have implication for the development and implementation of an active living program

3.8 assess the quality of an active living program using case studies and experience in a facility
- 3.8.1 prepare a capacity inventory of a facility and its residents to determine how to connect with the community
- 3.8.2 prepare an inventory of community assets and possible resources
- 3.8.3 develop a plan linking assets to needs of an active living program
- 3.8.4 create a community asset map

3.9 write goals for implementing or improving an active living program based on considerations for
- 3.9.1 public Health Agency of Canada's Guidelines for Physical Activity for Older Adults
- 3.9.2 time constraints of the program
- 3.9.3 needs of the administrators of the program
- 3.9.4 needs of the staff at the facility
- 3.9.5 needs and characteristics of the participants, including goals to involve all residents at some level in the program
- 3.9.6 availability of facilities and equipment
- 3.9.7 budget constraints

3.10 implement at least one goal/strategy to improve an active living program

3.11 implement at least one goal/strategy to increase community involvement in an active living program

4. demonstrate basic competencies

4.1 demonstrate fundamental skills to:
- 4.1.1 communicate
- 4.1.2 manage information
- 4.1.3 use numbers
- 4.1.4 think and solve problems

4.2 demonstrate personal management skills to:
- 4.2.1 demonstrate positive attitudes and behaviours
- 4.2.2 be responsible
- 4.2.3 be adaptable
- 4.2.4 learn continuously
- 4.2.5 work safely

4.3 demonstrate teamwork skills to:
    4.3.1 work with others
    4.3.2 participate in projects and tasks

5. identify possible life roles related to the skills and content of this cluster

5.1 recognize and then analyze the opportunities and barriers in the immediate environment

5.2 identify potential resources to minimize barriers and maximize opportunities

5. identify possible life roles related to the skills and content of this cluster

5.1 recognize and then analyze the opportunities and barriers in the immediate environment

5.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2140: INJURY MANAGEMENT 2

Level: Intermediate

Prerequisite: HES1130: Injury Management 1
HES1040: Musculoskeletal System 1

Description: Students learn prevention, assessment, and management techniques *specifically related to bone, joint and soft-tissue injuries* that may occur during recreation and sporting events and activities. Numerous opportunities to practice the art of taping and wrapping using a variety of techniques is provided. Students develop an appreciation for the role of a first-aider as it pertains to the individual, family, peers, community and sports medicine team.

Parameters: Access to instruction from an individual with formal, specialized training in athletic first aid. **Actual application of injury management and treatment skills can only occur in practical settings at the discretion and under the direct supervision of a qualified teacher or certified Athletic Therapist or equivalent medical personnel.**

Note: This course is the introductory course necessary for certifications for Athletic First Aid and Athletic Taping and Strapping from the Sports Medicine Council of Alberta. This certification is available to member schools who meet the Council's requirements. The 5 courses required for this certification include: Injury Management 1, Injury Management 2, Musculoskeletal System 1, First Aid with CPR/AED and Nutrition for Performance Recreational Activities and Sport

Supporting Course: HES2010: First Aid/CPR with AED
HES2100: Nutrition for Recreational Activities & Sport

Outcomes: The student will:

1. **evaluate the roles and responsibilities of an Athletic First Aider in preparation for the prevention, management and treatment of soft tissue injuries using case studies, various simulation exercises, and practical experience if available**
   - 1.1 describe the roles of sports medicine team members specific to soft-tissue injuries
   - 1.2 differentiate between types of soft tissue and joint injuries
   - 1.3 recognize signs and symptoms of soft tissue and joint injuries
   - 1.4 describe the appropriate management and treatment of soft tissue and joint injuries
   - 1.5 evaluate injuries using considerations for mechanisms of injury
   - 1.6 evaluate injuries using observations at time of injury, including environment, equipment, body position and direction, location and intensity of force
   - 1.7 differentiate between taping, wrapping and tensoring
   - 1.8 describe the goals of taping and wrapping for prevention and acute injuries
   - 1.9 describe the limitations of taping and wrapping
     - 1.9.1 when further assessment is required
     - 1.9.2 after an acute injury has occurred
     - 1.9.3 functional disability
     - 1.9.4 swelling

1.9.5 after cold application
1.9.6 pre-puberty (ages 10-14)
1.9.7 during sleep
1.9.8 during certain sports
1.9.9 if the athletic first-aider is unsure
1.9.10 for the shoulder
1.9.11 for the knee

1.10 organize supplies for the management and treatment of injuries, including basic first aid kit contents and taping and wrapping supplies

1.11 demonstrate principles for the correct and effective application of taping and wrapping with a variety of techniques
1.11.1 use a checklist to determine readiness for taping and wrapping
1.11.2 explain proper skin preparation
1.11.3 explain considerations for proper positioning of the injured person
1.11.4 explain considerations for proper positioning of the athletic first-aider
1.11.5 explain the use of components of taping and wrapping, including anchors, functional tape strips and finishing and over tape strips
1.11.6 explain considerations for tensoring
1.11.7 describe common mistakes made during taping and wrapping, including shadows, windows, wrinkles
1.11.8 explain considerations for checking a completed taping and wrapping job
1.11.9 explain the importance of elevation
1.11.10 demonstrate correct removal of taping and wrapping
1.11.11 describe considerations for the re-evaluation of the condition of injuries after the removal of taping and wrapping

1.12 justify return to play considerations using multiple case studies
1.12.1 describe considerations for medical clearance and parental permission
1.12.2 describe considerations for strength, power, and endurance
1.12.3 describe the potential hazards of returning to play too early
1.12.4 demonstrate appropriate skills for active, passive and resisted range of motion testing
1.12.5 demonstrate sport and activity specific functional tests to determine readiness for return to play, including movement, balance, ability to impact, visual acuity, and proprioception
1.12.6 assessment of psychological readiness
1.12.7 assessing limitations resulting from taping, bracing and padding

2. demonstrate appropriate management and treatment of skin wounds, including blisters, abrasions, and lacerations, using multiple case studies, various simulation exercises, and practical experience if available

2.1 differentiate between open blisters, closed blisters, abrasions and severe lacerations minor lacerations, and minor cuts
2.2 recommend methods to prevent blisters
2.3 summarize general principles for wound care

3. demonstrate the appropriate management and treatment of injuries related to the foot and ankle using multiple case studies, various simulation exercises, and practical experience if available

3.1 locate the bones in the ankle and foot in lateral, media plantar and frontal views
3.2 explain how the structure of the ankle and foot affects stability
3.3 describe how risk of injury is increased by a cavus foot and a planus foot
3.4 recommend fitness and conditioning principles for injury prevention
3.5 recommend lifestyle choices for injury prevention, including protective equipment
3.6 demonstrate range of motion of the foot and ankle, including dorsiflexion, plantar flexion, inversion and eversion

3.7 describe common injuries of the ankle and foot, including contusion, plantar fasciitis, inversion sprain, eversion sprain, and tendonitis
3.8 demonstrate correct application of eight taping and wrapping techniques to the ankle and foot, including: Heel Lock technique, Closed Basketweave Ankle, Modified Gibney Ankle, Open Basketweave ankle, Six Stirrup Manitoba Double Back door, Ankle Tensoring, Longitudinal Arch, and Modification/Alternate Technique
3.8.1 describe the purpose for using each technique
3.8.2 demonstrate correct positioning for the first-aider and the injured person
3.8.3 demonstrate correct preparation necessary before application of treatment
3.8.4 describe rehabilitative procedures and return to play protocols

4. demonstrate the appropriate management and treatment of injuries related to the wrist, hand and thumb using multiple case studies, various simulation exercises, and practical experience if available

4.1 name and locate the bones in the wrist and hand
4.2 explain how the structure of the hand affects stability
4.3 recommend fitness and conditioning principles for injury prevention
4.4 recommend lifestyle choices for injury prevention, including protective equipment
4.5 demonstrate range of motion of the wrist, hand and thumb including flexion, extension, abduction and adduction
4.6 describe common injuries of the wrist, hand and thumb
4.7 demonstrate correct application of five taping and wrapping techniques for wrist, hand and thumb, including the Wrist Hyperflexion/Hyperextension, Contact Wrist, Contact Thumb, Non-Contact Thumb (Peppard), and Finger
4.7.1 describe the purpose for using each technique
4.7.2 demonstrate correct positioning for the first-aider and the injured person
4.7.3 demonstrate correct preparation necessary before application of treatments
4.7.4 describe rehabilitative procedures and return to play protocols

5. demonstrate the appropriate management and treatment of injuries related to the elbow using multiple case studies and practice scenarios

5.1 name and locate the bones and ligaments of the elbow in posterior, anterior, lateral and medial views
5.2 explain how the structure of the elbow affects stability
5.3 recommend fitness and conditioning principles for injury prevention
5.4 recommend lifestyle choices for injury prevention, including protective equipment
5.5 demonstrate range of motion of the elbow, including flexion extension, pronation and supination
5.6 describe common injuries of the elbow, including bursitis, dislocation, epicondylitis, hyperextension "little league elbow", and dislocation with children under 10
5.7 demonstrate correct application of taping and wrapping techniques for the elbow, including "Tennis Elbow"
5.7.1 describe the purpose for using each technique
5.7.2 demonstrate correct positioning for the first-aider and the injured person
5.7.3 demonstrate correct preparation necessary before application of treatments
5.7.4 describe rehabilitative procedures and return to play protocols

6. discuss the appropriate management and treatment of injuries related to the knee using multiple case studies

6.1 explain the categorization of the knee as a synovial joint
6.2 name and locate the major components of the knee joint from anterior, antero-lateral, postero-medial and posterior views, including bones, menisci, ligaments, and muscles that attach to the knee
6.3 explain how the structure of the knee affects stability
6.4 justify the necessity of medical professional attention to address injuries of the knee
6.5 evaluate inappropriate use of taping and strapping using multiple case studies

6.6 recommend fitness and conditioning principles for injury prevention
6.7 recommend lifestyle choices for injury prevention, including protective equipment
6.8 demonstrate range of motion of the knee, including flexion, extension, medial rotation and lateral rotation
6.9 describe common injuries of the knee, including meniscal tear, patellofemoral syndrome, three types of acute sprain and two types of chronic tendonitis
6.10 identify three taping and wrapping techniques that medically trained and certified professionals might consider to use with knee injuries for individuals under their care

7. demonstrate the appropriate management and treatment of injuries related to the Achilles Tendon, adductor muscles of the leg, quadriceps muscle using multiple case studies and practice scenarios

7.1 locate the Achilles tendon, adductor muscles of the leg and quadriceps muscles
7.2 describe how muscles are injured during stress related to activity
7.3 recommend fitness and conditioning principles for injury prevention
7.4 recommend lifestyle choices for injury prevention, including protective equipment
7.5 recognize common injuries of muscles, including contusions, myositis Ossificans, strain, tendonitis and tenosynovitis
7.6 demonstrate correct application of three taping and wrapping techniques for muscle injuries, including taping and wrapping for the Achilles tendon, groin (Hip Spica) Tensoring, and Quadriceps Tensoring
7.6.1 describe the purpose for using each technique
7.6.2 demonstrate correct positioning for the first-aider and the injured person
7.6.3 demonstrate correct preparation necessary before application of treatments
7.6.4 describe rehabilitative procedures and return to play protocols

8. demonstrate basic competencies

8.1 demonstrate fundamental skills to:
8.1.1 communicate
8.1.2 manage information
8.1.3 use numbers
8.1.4 think and solve problems
8.2 demonstrate personal management skills to:
8.2.1 demonstrate positive attitudes and behaviours
8.2.2 be responsible
8.2.3 be adaptable
8.2.4 learn continuously
8.2.5 work safely
8.3 demonstrate teamwork skills to:
8.3.1 work with others
8.3.2 participate in projects and tasks

9. identify possible life roles related to the skills and content of this cluster

9.1 recognize and then analyze the opportunities and barriers in the immediate environment
9.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2150: COACHING 1

Level: Intermediate

Prerequisite: HES2110: Recreation Leadership

Description: Students learn basic coaching skills common to all sports in the areas of planning and delivering a practice, teaching and learning, and mental skills training related to coaching. Students develop an appreciation for the role of a coach in community recreation programs.

Parameters: This course must be taught by a teacher with a background in physical education and coaching.

Note: If the course is taught by a teacher who is a certified NCCP Learning Facilitator, successful completion of the course may lead to NCCP recognition of training in the NCCP modules: Planning and Practice, Teaching and Learning, and Basic Mental Skills. Students must be at least sixteen years of age upon completion of the course and students and teachers must complete the NCCP registration form required to complete the data entry process.

Supporting Course: HES2100: Nutrition for Recreation Activities & Sport
HES2090: Nurturing Children
HES Project Course

Outcomes: The student will

1. **evaluate the roles and responsibilities of a coach**
   - 1.1 describe the core competencies of the NCCP
   - 1.2 explain the concept of Fair Play and the Do No Harm Principle
   - 1.3 justify seven key training principles that apply to all coaching contexts: adaptation, specificity, overload, individuality, progression, purpose and recovery
   - 1.4 explain the purpose of a practice using six key questions to consider
     - 1.4.1 who are my athletes?
     - 1.4.2 what are the safety risks and how should I prepare?
     - 1.4.3 what am I trying to accomplish with my practice
     - 1.4.4 how am I going to organize my practice?
     - 1.4.5 how will I deliver my practice?
     - 1.4.6 what abilities and skills does my sport require?
     - 1.4.7 what are the logistics of my practice?
   - 1.5 categorize risk factors present during a practice into three categories, environmental factors, equipment and facilities
   - 1.6 describe strategies for risk management pre-season, during the season, and post-season, including retention, reduction, transference or avoidance of risk
   - 1.7 describe the role of a coach as a facilitator during the goal-setting process
2. **analyze sports skills to inform practice planning and program design**
   - 2.1 define a "skilled sport performance"
   - 2.2 categorize sport skills according to environment into three categories: closed, open and combined skills
   - 2.3 classify several sport skills according to beginning and end points into three categories: discrete, serial, and open skills

2.4 differentiate between stages of development at the beginner, intermediate and advanced levels, including, initiation, acquisition, consolidation, refinement, creative variations
2.5 describe key point to consider and the roles and responsibilities of athletes at each stage of athletic development
2.6 classify athletic abilities into four categories: physical abilities, motor abilities, tactical abilities and mental skills, including
- 2.6.1 speed
- 2.6.2 speed-endurance
- 2.6.3 aerobic stamina
- 2.6.4 maximum strength
- 2.6.5 speed-strength
- 2.6.6 strength- endurance
- 2.6.7 flexibility
- 2.6.8 agility
- 2.6.9 balance, including control of an object and static and dynamic balance
- 2.6.10 coordination
- 2.6.11 read and react
- 2.6.12 associative solutions inventory of responses
- 2.6.13 variation of responses
- 2.6.14 attentional control
- 2.6.15 emotional control
- 2.6.16 goal setting

2.7 justify the importance of skills for various sports on a four point scale in the four categories of athletic ability, including skills for
- 2.7.1 team sports
- 2.7.2 cyclical sports (short, medium, and long duration)
- 2.7.3 combat sports
- 2.7.4 artistic sports
- 2.7.5 single action sports
- 2.7.6 precision sports
- 2.7.7 racquet sports
- 2.7.8 sports that do not belong to a specific sport family

2.8 summarize developmental considerations for skill development based on age, including ages 3-5, 6-7,8-9, 10-11, 12-15, 16-17, and 18 years or older
- 2.8.1 justify a list of activities for each age group, including activities to avoid, optimal training age, and activities available in moderation
- 2.8.2 recommend specific adaptations to activities and instructional methods based on age, including special considerations for puberty

3. **demonstrate appropriate activities for a practice including activities for introduction, warm-up, main part, cool down and conclusion**

3.1 develop activities for a practice that have appropriate time allotments
3.2 justify the importance of goal oriented activity considering the Challenge Zone
3.3 describe key points and guidelines for training all areas of athletic ability
3.4 justify a choice of activities for different types of practices, describing reasons for recommending and not recommending activities
- 3.4.1 part practice
- 3.4.2 progressive part practice
- 3.4.3 whole practice
- 3.4.4 massed practice
- 3.4.5 distributed practice
- 3.4.6 constant practice
- 3.4.7 variable practice

3.5 summarize several practice planning tips specific to coaching
3.6 plan a practice using to select effective activities in a practice, including
3.6.1.1 considerations for growth and development based on age of athletes
3.6.1.2 considerations for performance versus learning
3.6.1.3 considerations for rate of improvement and amount of practice time
3.6.1.4 considerations for short term and long term effects of using specific practice conditions and types (random practice)
3.7 select activities for a practice considering stages of skill development in relation to recommended practice conditions
3.7.1 surrounding environment
3.7.2 decision-making
3.7.3 speed of execution
3.7.4 number of repetitions
3.7.5 risk factors
3.7.6 emphasis of training
3.8 lead a practice
3.9 evaluate the plan using checklist tools according to the seven key training principles

4. **implement basic mental skills training in a coaching context**
4.1 describe the relationship of mental skills to IPS, including the importance of self-awareness and mental preparation
4.2 describe the role of the coach in the development of mental preparedness as a component of Ideal Performance State (IPS)
4.3 describe mental strategies used by successful athletes
4.4 demonstrate strategies to improve attentional control
4.4.1 recognize signs of focus problems
4.4.2 define terms related to attentional control, including automatic and controlled information processing
4.4.3 apply attentional dimensions of width and direction to various sport skills
4.4.4 categorize sports based on few or many shifts
4.4.5 identify sources and examples of potential distracters in various coaching contexts
4.4.6 lead activities and sessions to improve basic focusing skills, including activities for improving concentration, shutting, and managing distracters
4.5 demonstrate strategies to improve emotional control
4.5.1 identify several common emotions experienced in sport
4.5.2 recognize signs of anxiety problems
4.5.3 define terms related to emotional control, including ies, stimulus or trigger, anxiety, stress
4.5.4 differentiate between functional and dysfunctional anxiety
4.5.5 evaluate the four stages of stress: demand, perception of demand, stress response and performance consequence
4.5.6 describe two myths about stress in sport
4.5.6.1 all stress is bad
4.5.6.2 some athletes don't experience stress
4.5.7 describe possible causes of negative anxiety, including physical (somatic) and cognitive(mental) causes
4.5.8 evaluate the relationship between arousal and performance
4.5.9 predict sport situations that are most conducive to high, moderate, and low arousal levels based on the inverted u theory
4.5.9.1 explain the theory of zones of optimal functioning
4.5.10 lead activities and sessions to teach techniques for managing anxiety, including activities for monitoring pulse, breathing control, mind-to-body control, body-to-mind control, and visualization

4.6 lead activities that combine emotional and attentional control in preparation for performance
4.7 teach a process for improving focus and/or anxiety, including the steps of normalization, self-awareness, skill development, simulation (in practice), implementation (in competition)
4.8 demonstrate skills for setting goals with athletes using case studies and simulations
4.8.1 describe the purpose and benefits of collaborative goal setting
4.8.2 Outline three questions to answer during goal setting with athletes
4.8.3 differentiate between process goals and outcome goals
4.8.4 differentiate between short term goals and long term goals
4.8.5 outline the necessary information to obtain before beginning the goal-setting process
4.8.6 demonstrate the six steps in the goal-setting process using a case-study or simulation of goal-setting with a team or individual
4.8.6.1 establish the importance or meaning of the experience
4.8.6.2 identify areas that need work
4.8.6.3 specify goals for the season/year
4.8.6.4 determine the criteria for success
4.8.6.5 develop a road map for success
4.8.6.6 develop a monitoring and evaluation process

5. demonstrate basic competencies

5.1 demonstrate fundamental skills to:
5.1.1 communicate
5.1.2 manage information
5.1.3 use numbers
5.1.4 think and solve problems
5.2 demonstrate personal management skills to:
5.2.1 demonstrate positive attitudes and behaviours
5.2.2 be responsible
5.2.3 be adaptable
5.2.4 learn continuously
5.2.5 work safely
5.3 demonstrate teamwork skills to:
5.3.1 work with others
5.3.2 participate in projects and tasks

6. identify possible life roles related to the skills and content of this cluster

6.1 recognize and then analyze the opportunities and barriers in the immediate environment
6.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2160: COMMUNITY VOLUNTEERISM

Level: Intermediate

Prerequisite: None

Description: Students, through exploration and participation, examine and demonstrate the roles of effective community volunteers.

Parameters: All student release forms required by the school must be in place.

Outcomes: The student will:

1. **perform, as a volunteer, assigned tasks and responsibilities efficiently and effectively**
   - 1.1 define volunteerism and altruism
   - 1.2 describe the personals reward of volunteering:
     - 1.2.1 self-esteem
     - 1.2.2 learning
     - 1.2.3 résumé
     - 1.2.4 experience community awareness
     - 1.2.5 career awareness
     - 1.2.6 initiate health promotion
   - 1.3 describe societal benefits of volunteerism
   - 1.4 outline the potential impact of volunteerism on opportunities for paid employment
   - 1.5 describe the essential characteristics of a volunteer:
     - 1.5.1 confidentiality/ethics
     - 1.5.2 attendance/punctuality
     - 1.5.3 resource/time management
     - 1.5.4 adherence to rules and regulations
     - 1.5.5 safety
     - 1.5.6 enthusiasm
     - 1.5.7 sense of humour
   - 1.6 outline the clients' responsibilities
   - 1.7 describe what behaviours might be encountered from the clients (e.g., gratitude, embarrassment, resentment)
   - 1.8 identify possible reasons for these behaviours and suggest strategies to deal with them
2. **describe personal performance as a volunteer**
   - 2.1 choose a suitable community placement that will enhance interests and abilities
   - 2.2 Write a job description outlining the duties and expectations that meets the approval of the supervising teacher and client
   - 2.3 practice approximately 20 hours of volunteerism in a teacher-approved community locale
   - 2.4 evaluate personal performance
   - 2.5 review evaluation from the client to identify areas for growth and development as a volunteer
3. **demonstrate basic competencies**
   - 3.1 demonstrate fundamental skills to:
     - 3.1.1 communicate
     - 3.1.2 manage information
     - 3.1.3 use numbers
     - 3.1.4 think and solve problems

3.2 demonstrate personal management skills to:
- 3.2.1 demonstrate positive attitudes and behaviours
- 3.2.2 be responsible
- 3.2.3 be adaptable
- 3.2.4 learn continuously
- 3.2.5 work safely

3.3 demonstrate teamwork skills to:
- 3.3.1 work with others
- 3.3.2 participate in projects and tasks

4. identify possible life roles related to the skills and content of this cluster

4.1 recognize and then analyze the opportunities and barriers in the immediate environment

4.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2170: CHRONIC CONDITIONS

Level: Intermediate

Prerequisite: HES1010: Health and Wellness Fundamentals

Description: Students examine the physiological development of noncancerous chronic illness and chronic conditions and acquire an understanding of specific strategies to prevent chronic illness. Students develop and awareness for the complexity of noncancerous chronic conditions and their prevalence in society through a comparative study of several noncancerous chronic conditions. Students are introduced to the self-management model and gain an appreciation for resources available to help individuals manage noncancerous chronic conditions and assist their family, peers and community.

Parameters: Access to health care professionals and/or community members who support people managing a noncancerous chronic condition will facilitate learning

Supporting Courses: HES2050: Pain & Pain Management
HES2070: Integrative Health
HES1020: Nutrition & Wellness
HES2060: Infection & Immunity 3

Outcomes: The student will:

1. explain basic principles related to the development of chronic conditions

1.1 differentiate chronic illness from acute illness based on
- 1.1.1 rapid vs. gradual onset
- 1.1.2 one cause vs. many causes
- 1.1.3 short duration vs. indefinite duration
- 1.1.4 accurate early diagnosis vs. early diagnostic uncertainty
- 1.1.5 decisiveness of diagnostic tests
- 1.1.6 cure common vs. rare
- 1.1.7 role of professional to select and conduct therapy vs. teacher and partner
- 1.1.8 role of patient - follow orders vs. partner in health care and responsible for daily management of illness

1.2 differentiate between a chronic illness and a chronic condition

1.3 justify cellular dysfunction as the root of chronic disease resulting from
- 1.3.1 compromise to the cellular ability to be nourished
- 1.3.2 compromise to the cellular ability to receive oxygen
- 1.3.3 compromise to the cellular ability to eliminate toxins and waste

1.4 illustrate the cycle of events that cause disease in one body system and lead to chronic conditions as a result of inability to relieve symptoms using case studies
- 1.4.1 cellular dysfunction leads to disease in a body system
- 1.4.2 unrelieved symptoms lead to pain or compromised movement, breathing or nutrition
- 1.4.3 pain leads to stress, anxiety and other emotions
- 1.4.4 stress and anxiety lead to depression
- 1.4.5 depression leads to fatigue
- 1.4.6 fatigue causes cellular dysfunction

1.5 examine trends related to the incidence of chronic illness
- 1.5.1 compare the prevalence of chronic conditions in the list of the ten most common causes of death in Canada, North America and other countries
- 1.5.2 identify trends related to the age of onset of at least five of the most common chronic conditions
- 1.5.3 outline possible factors causing changing trends related to chronic conditions

1.6 summarize risk factors contributing to the development of chronic illness, including
- 1.6.1 factors that compromise cellular nutrition
- 1.6.2 factors that compromise cellular access to oxygen
- 1.6.3 factors that compromise cellular ability to eliminate toxins and waste
- 1.6.4 factors related to infection and immunity
- 1.6.5 factors related to stress and lifestyle choices
- 1.6.6 factors related to body composition
- 1.6.7 factors related to repetitive movements resulting from work or recreation
- 1.6.8 factors related to healthy aging
- 1.6.9 factors related to genetics
- 1.6.10 cultural factors related to beliefs and practices

1.7 recommend several lifestyle choices to prevent the development of a chronic diseases and/or conditions using multiple case studies
- 1.7.1 justify the relationship of active living and physical activity to the prevention of chronic conditions
- 1.7.2 justify the relationship of proper nutrition to the prevention of chronic conditions

1.8 explain how adequate monitoring of symptoms of a chronic condition during physical activity contributes to prevention using case studies

1.9 describe blood test indicators such as cholesterol and blood glucose as measures to prevent and manage a chronic condition

2. explain the significance of the inflammatory response to the development of chronic disease

2.1 define inflammation

2.2 differentiate acute inflammation from chronic inflammation

2.3 describe the role of stress in the development of chronic inflammation

2.4 identify blood test indicators of inflammation, including C-Reactive Protein (CRP)

2.5 examine genetic predisposition to chronic illness related to inflammation

2.6 examine risk factors associated with chronic inflammation in the each of the eleven body systems

2.7 compare the list of risk factors related to chronic conditions and chronic inflammation in the body

3. explain the basic pathology and treatment of common non-cancerous chronic conditions using multiple case studies

3.1 summarize the signs and symptoms of common chronic conditions, including
- 3.1.1 conditions related to repetitive, athletic and/or strenuous physical activity
- 3.1.2 chronic diseases common in childhood
- 3.1.3 rheumatoid arthritis
- 3.1.4 osteoarthritis
- 3.1.5 diabetes (type 1)
- 3.1.6 diabetes (type 2)
- 3.1.7 osteoporosis
- 3.1.8 heart disease and hypertension
- 3.1.9 stroke
- 3.1.10 chronic obstructive pulmonary disease

3.2 describe diagnostic procedures available for these conditions

3.3 summarize medical and integrative health treatments available for chronic conditions, including cultural considerations related to treatment
3.4 summarize the role of dietary management for the treatment and management of various chronic conditions
3.5 describe the impact of chronic illness on one body system to the healthy functioning of other body systems
3.6 explain the social, emotional and economic impact of these conditions on the individual, family, peers and the community
3.7 summarize community and information resources available for people living with chronic diseases and conditions
3.8 summarize community and information resources available for friends and family of people living with a chronic condition

4. explain strategies for implementing a self-management program for individuals experiencing a chronic condition

4.1 identify categories of information on prescription labels
4.2 compare prevalence of problems related to several chronic conditions that require self-management skills
- 4.2.1 pain
- 4.2.2 fatigue
- 4.2.3 shortness of breath
- 4.2.4 physical function
- 4.2.5 difficult emotions

4.3 describe the illness path
4.4 categorize skills needed to manage a chronic illness into three categories
- 4.4.1 skills needed to manage a specific illness
- 4.4.2 skills needed to continue activities of daily living
- 4.4.3 skills needed to manage changing emotions

4.5 interview health care professionals and/or community members involved in developing and maintaining a self-management program for helping people to live well with a chronic condition including their involvement in supporting
- 4.5.1 goal setting and problem solving
- 4.5.2 developing and maintaining an exercise program
- 4.5.3 managing difficult emotions
- 4.5.4 learning to manage fatigue and pain
- 4.5.5 dietary counseling
- 4.5.6 developing personal directives
- 4.5.7 developing a positive partnership with health care professionals
- 4.5.8 communicating with family and friends
- 4.5.9 managing symptoms of specific diseases and conditions

5. demonstrate basic competencies

5.1 demonstrate fundamental skills to:
- 5.1.1 communicate
- 5.1.2 manage information
- 5.1.3 use numbers
- 5.1.4 think and solve problems

5.2 demonstrate personal management skills to:
- 5.2.1 demonstrate positive attitudes and behaviours
- 5.2.2 be responsible
- 5.2.3 be adaptable
- 5.2.4 learn continuously
- 5.2.5 work safely

5.3 demonstrate teamwork skills to:
  5.3.1 work with others
  5.3.2 participate in projects and tasks

6. identify possible life roles related to the skills and content of this cluster

6.1 recognize and then analyze the opportunities and barriers in the immediate environment

6.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2910: HES PROJECT B

Level: Intermediate

Prerequisite: None

Description: Students develop project design and management skills to extend and enhance competencies and skills in other Career and Technology Studies (CTS) courses through contexts that are personally relevant.

Parameters: This course must make connections with a minimum of 2 CTS courses, one of which must be at the intermediate level.

All projects and/or performances whether teacher or student led, must include a course outline or student proposal.

Outcomes:

The teacher/student will:

1. **identify the two or more CTS courses being linked to this course**
   - 1.1 justify the connection
   - 1.2 identify key outcomes
2. **propose, manage and assess a project and/or performance**
   - 2.1 identify project and/or performance:
     - 2.1.1 prepare a plan
     - 2.1.2 clarify the purposes
     - 2.1.3 define deliverables
     - 2.1.4 specify timelines
     - 2.1.5 explain terminology, tools and processes consistently throughout
     - 2.1.6 define resources; e.g., materials, costs, staffing
   - 2.2 identify and comply with all related health and safety standards
   - 2.3 define assessment standards (indicators for success)
   - 2.4 present proposal and obtain necessary approvals

The student will:

3. **meet goals as defined within the plan**
   - 3.1 complete the project and/or performance as outlined
   - 3.2 monitor project and/or performance and make necessary adjustments
   - 3.3 present the project and/or performance:
     - 3.3.1 outcomes attained
     - 3.3.2 relationship to goals set originally
   - 3.4 evaluate the project and/or performance:
     - 3.4.1 processes and strategies used
     - 3.4.2 recommendations for how the project and/or performance could have been improved

4. demonstrate basic competencies

4.1 demonstrate fundamental skills to:
- 4.1.1 communicate
- 4.1.2 manage information
- 4.1.3 use numbers
- 4.1.4 think and solve problems

4.2 demonstrate personal management skills to:
- 4.2.1 demonstrate positive attitudes and behaviours
- 4.2.2 be responsible
- 4.2.3 be adaptable
- 4.2.4 learn continuously
- 4.2.5 work safely

4.3 demonstrate teamwork skills to:
- 4.3.1 work with others
- 4.3.2 participate in projects and tasks

5. identify possible life roles related to the skills and content of this cluster

5.1 recognize and then analyze the opportunities and barriers in the immediate environment

5.2 identify potential resources to minimize barriers and maximize opportunities

COURSE HES2920: HES PROJECT C

Level: Intermediate

Prerequisite: None

Description: Students develop project design and management skills to extend and enhance competencies and skills in other Career and Technology Studies (CTS) courses through contexts that are personally relevant.

Parameters: This course must make connections with a minimum of 2 CTS courses, one of which must be at the intermediate level.

All projects and/or performances whether teacher or student led, must include a course outline or student proposal.

Outcomes:

The teacher/student will:

1. **identify the two or more CTS courses being linked to this course**
   - 1.1 justify the connection
   - 1.2 identify key outcomes
2. **propose, manage and assess a project and/or performance**
   - 2.1 identify project and/or performance:
     - 2.1.1 prepare a plan
     - 2.1.2 clarify the purposes
     - 2.1.3 define deliverables
     - 2.1.4 specify timelines
     - 2.1.5 explain terminology, tools and processes consistently throughout
     - 2.1.6 define resources, e.g., materials, costs, staffing
   - 2.2 identify and comply with all related health and safety standards
   - 2.3 define assessment standards (indicators for success)
   - 2.4 present proposal and obtain necessary approvals

The student will:

3. **meet goals as defined within the plan**
   - 3.1 complete the project and/or performance as outlined
   - 3.2 monitor project and/or performance and make necessary adjustments
   - 3.3 present the project and/or performance:
     - 3.3.1 outcomes attained
     - 3.3.2 relationship to goals set originally
   - 3.4 evaluate the project and/or performance:
     - 3.4.1 processes and strategies used
     - 3.4.2 recommendations for how the project and/or performance could have been improved

4. demonstrate basic competencies

4.1 demonstrate fundamental skills to:
- 4.1.1 communicate
- 4.1.2 manage information
- 4.1.3 use numbers
- 4.1.4 think and solve problems

4.2 demonstrate personal management skills to:
- 4.2.1 demonstrate positive attitudes and behaviours
- 4.2.2 be responsible
- 4.2.3 be adaptable
- 4.2.4 learn continuously
- 4.2.5 work safely

4.3 demonstrate teamwork skills to:
- 4.3.1 work with others
- 4.3.2 participate in projects and tasks

5. identify possible life roles related to the skills and content of this cluster

5.1 recognize and then analyze the opportunities and barriers in the immediate environment

5.2 identify potential resources to minimize barriers and maximize opportunities