COURSE REC1020: INJURY MANAGEMENT 1

Level: Introductory

Prerequisite: None

Description: Students learn prevention, assessment and management techniques related to injuries that may occur during recreation and sporting events and activities.

Parameters: Access to instruction from an individual with recognized training in athletic injury management and taping and strapping; e.g., Athletic Injury Management (AIM) from the Sport Medicine Council of Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HCS1050: Musculoskeletal System
HCS1080: Cardiovascular System
HCS2020: First Aid/CPR with AED
HSS1010: Health Services Foundations

Outcomes: The student will:

1. **evaluate roles and responsibilities of a first-aider in prevention of injuries before an event or season of play**
   - 1.1 describe the roles of the members of a sports medicine team
   - 1.2 state the importance of maintaining current Emergency and Standard First Aid/CPR certification
   - 1.3 differentiate between watching an event as a participant or observer and as an athletic first-aider
   - 1.4 describe possible liability issues related to athletic first aid
   - 1.5 summarize risk management responsibilities
   - 1.6 describe a code of ethics for an athletic first aid provider
   - 1.7 summarize important considerations for the collection and management of the participants' medical information as required for an event, including a list of the types of information to obtain
   - 1.8 assess a facility and the environmental conditions related to potential injury on the day of an event
   - 1.9 recommend participation based on assessment of heat and humidity, being sure to:
     - 1.9.1 describe risk factors for physical activity related to heat and humidity
     - 1.9.2 recommend steps for avoiding heat injuries
     - 1.9.3 interpret humidex values
     - 1.9.4 explain exercising guidelines for heat-acclimated, well-hydrated individuals based on different humidex values
   - 1.10 recommend participation based on the assessment of a cold environment, being sure to:
     - 1.10.1 describe risk factors for physical activity related to a cold environment
     - 1.10.2 recommend steps to avoid cold-related injuries
     - 1.10.3 interpret wind-chill factor values
     - 1.10.4 identify the risk of frost-bite related to wind-chill and temperature
   - 1.11 summarize risks associated with the fitness and conditioning of participants

1.12 assess protective equipment and other gear or attire for safety and fit
1.13 promote the benefits of proper attire and gear, including a description of possible hazards of jewellery and other items that can cause choking hazards or injury
1.14 promote and help supervise proper skill instruction of athletes or participants to ensure proper techniques in warm-up, training, practice, competition or active participation, and cool down
1.15 describe basic hygienic principles to reduce the risk of infection at an event
1.16 classify therapeutic drugs, recreational drugs and performance-enhancing drugs sometimes used by athletes
1.17 summarize the ethical considerations for an athletic first-aider in relation to drug use by athletes

2. create an Emergency Action Plan to prepare for possible emergencies at different venues

2.1 summarize the necessity of an emergency action plan, including the importance of rehearsal
2.2 identify key components of an emergency action plan for on-field and sideline emergencies
2.3 list steps in Emergency Action Plan protocol
2.4 summarize the reasons to call for Emergency Medical Services
2.5 complete emergency protocol documents
2.6 build an athletic first aid kit and identify additional important equipment or supplies
2.7 complete a pre-event checklist appropriate for different venues

3. explain basic physiological principles related to various injuries and illnesses that may occur during recreation or sporting events and activities

3.1 categorize injuries as life-threatening, serious or non life-threatening injuries
3.2 categorize injuries as acute, chronic or recurrent
3.3 summarize common causes of injuries or illnesses, including the following:
- 3.3.1 neck and spine injuries
- 3.3.2 internal injuries, including ruptured spleen, bruised kidney and testicular trauma
- 3.3.3 respiratory illnesses, including asthma and hyperventilation
- 3.3.4 circulatory illnesses, including angina, heart attack and stroke
- 3.3.5 hyperthermia, including heat cramps, heat exhaustion and heat stroke
- 3.3.6 hypothermia and frostbite
- 3.3.7 diabetic coma and insulin shock
- 3.3.8 seizures and convulsions
- 3.3.9 nose injuries, including nosebleeds and broken noses
- 3.3.10 eye injuries, including contusions, lacerations and foreign bodies in the eye
- 3.3.11 dental injuries, including loose or chipped teeth and avulsed teeth

3.4 describe mechanisms of injury, including direct blow, torsion, shearing, bending and twisting of bones
3.5 summarize considerations for fractures during pre-adolescence and adolescence
3.6 explain the phases of the injury cycle, including:
- 3.6.1 inflammatory phase, using the acronym SHARP (swelling, heat, altered function, redness, pain)
- 3.6.2 repair and regeneration phase
- 3.6.3 remodelling phase

3.7 demonstrate the roles and responsibilities of a first-aider in response to injuries
3.8 evaluate injury scenarios, differentiating between life-threatening, serious and non life-threatening injuries
3.9 justify when medical referral is necessary
3.10 demonstrate the following primary assessment skills as part of the initial response to an injury, using case studies and active involvement in practical, simulated exercises:
- 3.10.1 ensure safety
- 3.10.2 assess consciousness
- 3.10.3 assess for possible neck injury

3.10.4 activate EAP (Emergency Action Plan)
3.10.5 conduct a primary survey, including ABC assessment (airway, breathing, circulation)

3.11 apply the four steps of the HOPS (history, observation, palpation, special tests) principle for secondary assessment as part of the initial response to an injury, being sure to:
3.11.1 describe basic considerations for conducting a secondary assessment
3.11.2 list the components of a thorough history, including those for assessing the severity of an injury
3.11.3 rate pain indicators using PQRST (precipitating/provoking, quality, radiating, severity, timing)
3.11.4 summarize words often used by individuals to describe the sensations they feel at the time of injury
3.11.5 list important indicators from medical history information and from observations made at the time of injury
3.11.6 recognize signs and symptoms of five types of head injury: concussion, contusion, hemorrhage, fracture, epidural and subdural hematoma
3.11.7 recognize signs and symptoms of neck and spine injuries
3.11.8 recognize signs and symptoms of internal injuries, including ruptured spleen, bruised kidney and testicular trauma
3.11.9 recognize signs and symptoms of respiratory illnesses, including asthma and hyperventilation
3.11.10 recognize signs and symptoms of circulatory illnesses, including angina, heart attack and stroke
3.11.11 recognize signs and symptoms of hyperthermia, including heat cramps, heat exhaustion and heat stroke
3.11.12 recognize signs and symptoms of hypothermia and frostbite
3.11.13 recognize signs and symptoms of diabetic coma and insulin shock
3.11.14 recognize signs and symptoms of seizures and convulsions
3.11.15 recognize signs and symptoms of nose injuries, including nosebleeds and broken noses
3.11.16 recognize signs and symptoms of eye injuries, including contusions, lacerations and foreign bodies in the eye
3.11.17 recognize signs and symptoms of fractures, including open, closed and stress fractures
3.11.18 recognize signs and symptoms of non-life-threatening injuries, including blisters, soft-tissue injuries, joint injuries and dental injuries
3.11.19 describe appropriate palpation skills for point tenderness, skin changes, crepitus, temperature and pulse
3.11.20 describe range of motion testing to evaluate joint and muscle function

4. demonstrate the appropriate management and treatment of injuries that can occur during recreation activities and sporting events using simulations

4.1 describe protocols for response when an injured athlete or participant is unconscious and/or not moving

4.2 describe appropriate skills for the management and treatment of life-threatening and serious injuries, including the following:
4.2.1 neck and spine injuries
4.2.2 internal injuries, including ruptured spleen, bruised kidney and testicular trauma
4.2.3 respiratory illnesses, including asthma and hyperventilation
4.2.4 circulatory illnesses, including angina, heart attack and stroke
4.2.5 hyperthermia, including heat cramps, heat exhaustion and heat stroke
4.2.6 hypothermia and frostbite
4.2.7 diabetic coma and insulin shock
4.2.8 seizures and convulsions

4.2.9 nose injuries, including nosebleeds and broken noses
4.2.10 eye injuries, including contusions, lacerations and foreign bodies in the eye
4.2.11 dental injuries, including loose, chipped and avulsed teeth
4.2.12 fractures, including open, closed and stress fractures
4.2.13 joint injuries, including dislocation and subluxation injuries
4.2.14 soft tissue injuries, including muscle, tendon, ligament, bursae and cartilage injuries
4.2.15 skin wounds, including blisters, abrasions and lacerations

4.3 describe return to play protocols and considerations for injuries, including concussions and fractures

4.4 demonstrate appropriate injury treatment (RICE – rest, ice, compression, elevation), being sure to:
4.4.1 relate the importance of the correct implementation of RICE to recovery time
4.4.2 describe methods for applying the principles of rest and restricted activity
4.4.3 describe the proper application of ice to an injured area, including precautions
4.4.4 describe the importance of compression to musculoskeletal injuries
4.4.5 describe basic principles to consider when applying compression to an injury
4.4.6 describe reasons to elevate a limb, including precautions for elevation

4.5 describe the appropriate roles for a first-aider in supporting rehabilitation

4.6 explain proper documentation procedures when responding to injuries

5. demonstrate basic taping and strapping of minor injuries in simulations

5.1 explain best practices for taping and strapping

5.2 assess when to tape and contraindications for taping

5.3 locate the bones and surface landmarks specific to taping the ankle and foot in lateral, medial, plantar and frontal views

5.4 locate the bones and surface landmarks specific to taping the wrist and hand

5.5 demonstrate proper skin preparation for the application of tape

5.6 apply basic taping skills in role-play scenarios for minor injuries, including:
5.6.1 ankle-heel lock
5.6.2 ankle-heel lock with figure eight
5.6.3 ankle-closed basketweave
5.6.4 wrist hyperextension and hyperflexion
5.6.5 thumb hyperextension and hyperabduction

5.7 summarize quadriceps and groin wrapping techniques, including circumstances for correct application

5.8 techniques for the application of taping and strapping materials

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. **make personal connections to the cluster content and processes to inform possible pathway choices**
   - 7.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
   - 7.2 create a connection between a personal inventory and occupational choice

COURSE REC1030: TECHNICAL FOUNDATIONS FOR INJURY MANAGEMENT

Level: Introductory

Prerequisite: HCS1050: Musculoskeletal System

Description: Students explain basic taping and wrapping fundamentals, explore the role of the athletic therapist, identify first-aid supplies, describe common injuries, and apply basic taping and wrapping techniques to various body regions.

Parameters: Access to instruction from an individual with recognized training in athletic first aid; e.g., Sport Taping and Strapping from the Sport Medicine Council of Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HCS2020: First Aid/CPR with AED
REC1020: Injury Management 1
REC2010: Nutrition for Recreation 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**
   - 1.1 describe the roles of sports medicine and/or health care 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 considering the mechanisms of injury
   - 1.6 describe mechanisms of injuries based on observations at the time of injury
   - 1.7 differentiate between taping, strapping, wrapping and tensoring
   - 1.8 describe the goals of taping and wrapping for injury prevention
   - 1.9 describe the goals of taping and wrapping to support acute and chronic injuries
   - 1.10 describe contraindications for taping and wrapping, including:
     - 1.10.1 when further assessment is required
     - 1.10.2 after an acute injury has occurred
     - 1.10.3 when functional disability is apparent
     - 1.10.4 when swelling is present
     - 1.10.5 after cold application
     - 1.10.6 for children of pre-puberty age
     - 1.10.7 during sleep
     - 1.10.8 during certain sports
     - 1.10.9 for the shoulder
     - 1.10.10 when the athletic first-aider lacks information about the injury or confidence with the specific technique required
     - 1.10.11 for the knee
     - 1.10.12 when there is no physician's consent for return to play

1.11 organize and maintain supplies and equipment for the management and treatment of injuries, including basic athletic first aid kit contents and taping and wrapping supplies
1.12 demonstrate principles for the correct and effective application of taping and wrapping with a variety of techniques, including:
- 1.12.1 using a checklist to determine readiness for taping and wrapping
- 1.12.2 explaining proper skin preparation
- 1.12.3 explaining considerations for proper positioning of the injured person
- 1.12.4 explaining considerations for proper positioning of the athletic first-aider
- 1.12.5 explaining the use of taping and wrapping components, including anchors, functional tape strips and finishing strips
- 1.12.6 explaining considerations for tensoring
- 1.12.7 describing common mistakes made during taping and wrapping, including shadows, windows and wrinkles
- 1.12.8 explaining considerations for inspecting a completed taping and wrapping job
- 1.12.9 demonstrating correct taping and wrapping removal using various equipment

2. demonstrate appropriate management and treatment of skin wounds, including blisters, abrasions and lacerations

2.1 differentiate among open blisters, closed blisters, abrasions, severe lacerations, minor lacerations and minor cuts
2.2 recommend methods for preventing blisters
2.3 explain general principles for wound care
2.4 describe the implications of taping over skin wounds

3. apply taping and strapping skills to the foot and ankle

3.1 locate the bones and surface landmarks specific to taping the ankle and foot in lateral, medial 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 pes planus foot
3.4 describe common injuries of the ankle and foot, including:
- 3.4.1 contusion
- 3.4.2 plantar fasciitis
- 3.4.3 inversion sprain
- 3.4.4 eversion sprain
- 3.4.5 tendonitis

3.5 demonstrate correct skin preparation necessary before the application of treatment, identifying areas of friction prior to taping and considering:
- 3.5.1 appropriate placement of heel and lace pads
- 3.5.2 appropriate application of underwrap
- 3.5.3 appropriate application of tape adherent

3.6 apply basic skills related to several taping and wrapping techniques to the ankle and foot using cloth and tape, including:
- 3.6.1 heel lock technique (cloth wrap)
- 3.6.2 closed basketweave to limit ankle inversion
- 3.6.3 closed basketweave Gibney technique

3.7 demonstrate correct application of taping and wrapping techniques to the ankle and foot using cloth and tape, including:
- 3.7.1 ankle tensoring
- 3.7.2 great toe buddy support
- 3.7.3 heel contusion pad
- 3.7.4 ankle compression with horseshoe pads
- 3.7.5 ankle and shin splint ice compression

3.8 describe the purpose for using each technique
3.9 demonstrate correct positioning of the first-aider and the injured person

4. apply taping and strapping techniques to the wrist and hand

4.1 locate the bones and surface landmarks specific to taping the wrist and hand
4.2 explain how the structure of the hand affects stability
4.3 describe common injuries of the wrist, hand and thumb
4.4 demonstrate correct skin preparation necessary before the application of treatment, including identification of areas of friction prior to taping
4.5 apply basic skills related to several taping and wrapping techniques to the wrist and hand, including:
- 4.5.1 wrist hyperextension
- 4.5.2 wrist hyperflexion
- 4.5.3 contact wrist
- 4.5.4 contact thumb
- 4.5.5 contact thumb modification
- 4.5.6 non-contact thumb (Peppard)

4.6 demonstrate the correct application of taping and wrapping techniques to the wrist and hand, including:
- 4.6.1 finger splint
- 4.6.2 finger sprain buddy system
- 4.6.3 finger check-rein
- 4.6.4 simple wrist C locks
- 4.6.5 wrist tensoring

4.7 describe the purpose of each technique
4.8 demonstrate correct positioning of the first-aider and the injured person

5. apply taping and strapping skills to the elbow

5.1 locate the bones, surface landmarks specific to taping, ligaments and tendons of the elbow
5.2 explain how the structure of the elbow affects stability
5.3 describe common injuries of the elbow, including bursitis, dislocation, epicondylitis, hyperextension, little league elbow and dislocation with children under 10
5.4 demonstrate correct skin preparation necessary before the application of treatment, including the identification of areas of friction prior to taping
5.5 apply basic skills for taping and wrapping for:
- 5.5.1 lateral humeral epicondylitis (tennis elbow)
- 5.5.2 elbow hyperextension

5.6 describe the purpose for using each technique
5.7 demonstrate correct positioning of the first-aider and the injured person

6. demonstrate the appropriate management and treatment of injuries related to the achilles tendon, adductor muscles of the leg and quadriceps muscles

6.1 locate the Achilles tendon, adductor muscles of the leg and quadriceps muscles
6.2 describe how muscles are injured during stress related to an activity
6.3 recommend fitness and conditioning principles for injury prevention
6.4 recommend lifestyle choices for injury prevention, including protective equipment
6.5 summarize common injuries of muscles, including:
- 6.5.1 contusions
- 6.5.2 myositis ossificans
- 6.5.3 strains
- 6.5.4 tendonitis
- 6.5.5 tenosynovitis

6.6 apply taping and wrapping techniques for the Achilles tendon
6.7 apply correct wrapping techniques for quadriceps tensoring
6.8 describe the purpose for using each technique
6.9 demonstrate correct positioning of the first-aider and the injured person

7. evaluate the appropriate management and treatment of injuries related to the knee

7.1 demonstrate range of motion of the knee, including flexion, extension, medial rotation and lateral rotation
7.2 explain the structure of the knee joint including bones, menisci, ligaments and muscles that attach to the knee
7.3 explain how the structure of the knee affects stability
7.4 justify the necessity of medical professional attention to address injuries of the knee
7.5 evaluate inappropriate use of taping and strapping
7.6 recommend fitness and conditioning principles for injury prevention
7.7 recommend lifestyle choices for injury prevention, including protective equipment
7.8 describe common injuries of the knee, including:
- 7.8.1 meniscal tear
- 7.8.2 patellofemoral syndrome
- 7.8.3 three types of acute sprain
- 7.8.4 two types of chronic tendonitis

7.9 identify three taping and wrapping techniques that medically trained and certified professionals might consider for knee injuries

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

9.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
9.2 create a connection between a personal inventory and occupational choices

COURSE REC1040: FOUNDATIONS FOR TRAINING 1

Level: Introductory

Prerequisite: None

Description: Students apply basic training and movement principles to health-related and performance-related components of fitness training. Students create fitness activities and develop a basic individual fitness plan to achieve goals for health-related and performance-related components.

Parameters: Access to a fitness facility.

Supporting Courses: HCS1050: Musculoskeletal System
HSS1020: Nutrition & Wellness

Outcomes: The student will:

1. **apply training and movement principles to the development of performance-related components of fitness**
   - 1.1 summarize how training principles relate to developing performance-related components, including:
     - 1.1.1 frequency, intensity, type, time
     - 1.1.2 overload
     - 1.1.3 specificity
   - 1.2 describe safety considerations for exercises related to performance-related components
   - 1.3 create an activity that applies to a performance-related component
2. **apply training and movement principles to develop health-related components of fitness**
   - 2.1 summarize how training principles relate to health-related components, including:
     - 2.1.1 frequency, intensity, type, time
     - 2.1.2 overload
     - 2.1.3 specificity
   - 2.2 describe safety considerations for an exercise related to a health-related component
   - 2.3 create an activity that applies to a health-related component
3. **create a basic individual fitness plan for achievement of goals in selected health-related and performance-related components of fitness**
   - 3.1 collect baseline fitness measurements of:
     - 3.1.1 health-related components
     - 3.1.2 performance-related components
   - 3.2 set goals for improvement of health-related and performance-related components
   - 3.3 demonstrate activity routines to meet the goals
   - 3.4 assess the results of the activity routines based on the goals
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. make personal connections to the cluster content and processes to inform possible pathway choices

5.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
5.2 create a connection between a personal inventory and occupational choices

COURSE REC1045: GROUP EXERCISE TRENDS

Level: Introductory

Prerequisite: REC1040: Foundations for Training 1

Description: Students describe trends in group fitness, participate in a variety of group fitness opportunities and apply training and movement principles to analyze the viability of fitness trends.

Parameters: Access to a fitness facility and to instruction from an individual who is highly knowledgeable in this area and/or a trained in kinesiology, physical education and/or human movement.

Outcomes: The student will:

1. describe trends in the fitness industry
- 1.1 summarize the history of group fitness
- 1.2 summarize the development of the fitness industry
- 1.3 summarize past and present trends in group fitness, such as:
  - 1.3.1 high-intensity interval training
  - 1.3.2 mom and baby fitness classes
  - 1.3.3 older adult fitness classes
  - 1.3.4 equipment-based group classes

2. evaluate a variety of group fitness opportunities
- 2.1 describe a variety of fitness opportunities, such as:
  - 2.1.1 rhythmic-based low-impact classes
  - 2.1.2 kickboxing
  - 2.1.3 step aerobics
  - 2.1.4 cardio- and core-style classes
  - 2.1.5 aquatics group exercise classes
  - 2.1.6 deep-water aerobics classes
  - 2.1.7 classes based on martial arts
  - 2.1.8 boot-camp-style classes
  - 2.1.9 prenatal and postnatal classes
  - 2.1.10 online or video instruction
- 2.2 participate in a variety of different group fitness classes available in the community
- 2.3 compare the characteristics, benefits and shortcomings of a variety of fitness trends
- 2.4 analyze the longevity of a variety of fitness trends, considering factors such as:
  - 2.4.1 demographics
  - 2.4.2 equipment and facilities
  - 2.4.3 facilitator training
  - 2.4.4 effectiveness of meeting participant goals

3. assess the effectiveness of a fitness class by applying training and movement principles
- 3.1 summarize training and movement principles
- 3.2 analyze the effectiveness of a fitness class, considering:
  - 3.2.1 frequency, intensity, time and type (FITT)
  - 3.2.2 overload
  - 3.2.3 specificity
  - 3.2.4 progression
- 3.3 summarize potential benefits and hazards of long-term participation in a group fitness class

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

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

5.2 create a connection between a personal inventory and occupational choices

COURSE REC1050: SPORT PSYCHOLOGY 1

Level: Introductory

Prerequisite: None

Description: Students assess the impact of mental fitness on optimal sport, artistic and/or academic performance and motivation. Students examine and demonstrate strategies to strengthen mental fitness, including relaxation, visualization and positive self-talk.

Supporting Courses: REC1040: Foundations for Training 1
REC2120: Coaching 1

Outcomes: The student will:

1. assess the impact of mental fitness on performance and motivation
- 1.1 define mental fitness in the context of sport or other performance domains
- 1.2 define ideal performance state (IPS)
- 1.3 describe personal examples of an ideal performance state and a performance state that is not ideal
- 1.4 describe the benefits of mental fitness related to sport, artistic and/or academic performance
- 1.5 describe the principles of motivation
- 1.6 differentiate between intrinsic and extrinsic factors affecting motivation
- 1.7 summarize strategies to enhance motivation, including strategies to manage various barriers to motivation
- 1.8 summarize effective goal-setting strategies, including:
  - 1.8.1 goal focus (process, performance or outcome based)
  - 1.8.2 goal specificity (general versus specific)
  - 1.8.3 goal difficulty
  - 1.8.4 goal valence (positive goals)
  - 1.8.5 goal proximity (short term versus long term)
  - 1.8.6 goal venue (training versus competition)
  - 1.8.7 goal collectivity (individual goals versus team goals and how they work together)
  - 1.8.8 goals that are written according to the SMART (specific, measureable, achievable, realistic, timely) principle
- 1.9 summarize how goal-setting is used to increase motivation and enhance self-confidence
- 1.10 assess personal mental fitness by:
  - 1.10.1 using subjective assessment tools and strategies
  - 1.10.2 reflecting on the relationship between recent performances and mental fitness
- 1.11 assess personal sources of motivation, including intrinsic and extrinsic factors
- 1.12 assess personal goal-setting strategies related to sport, artistic and/or academic performance

2. analyze how activation levels affect sport performance
- 2.1 define terms, including:
  - 2.1.1 activation level
  - 2.1.2 sport readiness
  - 2.1.3 anxiety
  - 2.1.4 energy management

2.2 summarize common responses to performance pressure and stressful events, including:
  2.2.1 physiological responses
  2.2.2 emotional responses
  2.2.3 behavioural responses
  2.2.4 cognitive responses
2.3 explain the impact of stressful events on the ideal performance state of an athlete
2.4 lead a basic relaxation strategy to manage activation state and energy levels, such as breathing exercises, progressive muscle relaxation, grounding techniques and centering strategies
2.5 demonstrate basic activation skills to manage activation state and energy level, such as the use of music, physical stimulation, social interaction and imagery

3. explain basic performance planning strategies used to enhance concentration, readiness, distraction control and consistency in performance

3.1 describe the impact of concentration and focus on performance
3.2 describe the principles of attentional control, such as those developed by Neideffer
3.3 describe a variety of concentration and focusing techniques for optimal performance, such as attentional control strategies, cue words and imagery
3.4 identify distractions and interferences to the optimal performance of an athlete or performer
3.5 outline performance planning strategies to maximize optimal performance for an athlete, including:
  3.5.1 pre-competition plans
  3.5.2 focus plans
  3.5.3 distraction control plans

4. apply basic mental training strategies to enhance sport performance

4.1 differentiate between positive and negative self-talk
4.2 assess the impact of positive self-talk on thoughts, feelings, behaviours and performance
4.3 assess the impact of negative self-talk on thoughts, feelings, behaviours and performance
4.4 explain strategies to improve self-talk
4.5 describe principles of effective visualization and imagery technique strategies, such as:
  4.5.1 using all of the senses to enhance the imagery experience
  4.5.2 perspective (internal versus external)
  4.5.3 principle of controllability
  4.5.4 principle of vividness
4.6 apply basic skills for using visualization and imagery, including:
  4.6.1 describing a situation in which a performer would use the strategy
  4.6.2 demonstrating how to use the strategy
  4.6.3 describing how the strategy can help manage energy and enhance focus and confidence
4.7 assess the impact of visualization on:
  4.7.1 performance
  4.7.2 skill correction and development
  4.7.3 concentration and the ability to focus on task
  4.7.4 confidence and belief in the ability to achieve goals

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 REC1910: REC PROJECT A

Level: Introductory

Prerequisite: None

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

Parameters: Introductory project courses must connect with a minimum of two CTS courses, one of which must be at the introductory level and be in the same occupational area as the project course. The other CTS course(s) can be either at the same level or at the intermediate level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

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 connection between this project course and two or more CTS courses**
   - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
   - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
2. **propose the project and/or performance**
   - 2.1 identify the project and/or performance by:
     - 2.1.1 preparing a plan
     - 2.1.2 clarifying the purposes
     - 2.1.3 defining the deliverables
     - 2.1.4 specifying time lines
     - 2.1.5 explaining terminology, tools and processes
     - 2.1.6 defining 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 the 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 the project and/or performance and make necessary adjustments
   - 3.3 present the project and/or performance, indicating the:
     - 3.3.1 outcomes attained
     - 3.3.2 relationship of outcomes to goals originally set

3.4 evaluate the project and/or performance, indicating the:
    3.4.1 processes and strategies used
    3.4.2 recommendations on 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. make personal connections to the cluster content and processes to inform possible pathway choices

5.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
5.2 create a connection between a personal inventory and occupational choices

COURSE REC2010: NUTRITION FOR RECREATION ACTIVITIES & SPORT

Level: Intermediate

Prerequisite: None

Description: Students explain the role of food and hydration in helping 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 labelling and the role of recreation leaders and coaches related to promoting nutrition for performance.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: FOD1010: Food Basics
HSS1020: 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 the achievement of optimal nutrition for physical activity and performance
- 1.2 define a calorie as a unit of measure
- 1.3 compare caloric values for carbohydrates, proteins and fat
- 1.4 compare caloric values for a variety of physical activities related to athletic performance, recreation and activities of daily living
- 1.5 calculate personal daily caloric requirements using measures for:
  - 1.5.1 resting metabolic rate
  - 1.5.2 daily activity level (sedentary, moderately active, very active)
  - 1.5.3 number of calories burned during purposeful exercise
- 1.6 predict daily caloric requirements for a variety of individuals based on case studies
- 1.7 describe factors affecting the caloric needs of individuals, including:
  - 1.7.1 age
  - 1.7.2 height
  - 1.7.3 weight
  - 1.7.4 gender
  - 1.7.5 amount of body muscle
  - 1.7.6 amount of daily physical activity
- 1.8 describe the roles of digestion, absorption and metabolism in the body's utilization of nutrients found in food
- 1.9 compare the energy requirements related to physical activity in a variety of recreational and athletic activities and training programs, considering:
  - 1.9.1 carbohydrate requirements for optimal nutrition
  - 1.9.2 protein requirements for optimal nutrition

1.10 relate energy release systems of the body to the nature of the physical activity and to the availability of nutrients, considering:
  1.10.1 availability and use of glucose and glycogen
  1.10.2 aerobic versus anaerobic energy systems
  1.10.3 intensity and duration of physical activity
  1.10.4 carbohydrate content in diet
  1.10.5 fat content in diet
  1.10.6 impact of training on energy utilization
1.11 explain protein structure and function within the context of muscle development
1.12 justify the role of nutrition as a key factor in enhancing physical and athletic performance
1.13 explain the following important considerations for dietary intake, including deficiencies among certain groups of athletes:
  1.13.1 calcium
  1.13.2 zinc
  1.13.3 iron
  1.13.4 fibre
1.14 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 related to supporting athletic training for a variety of diets for:
  2.1.1 athletes in judged sports
  2.1.2 athletes in individual and team sports
  2.1.3 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; e.g., competition anxiety
  2.3.2 taboos and superstitions
  2.3.3 cultural considerations; e.g., beliefs and practices
  2.3.4 acceptability of food; e.g., personal preference and familiarity with food
  2.3.5 availability of foods while away from home and at various types of restaurants, including fast-food 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, including:
  2.6.1 meals of 500 to 800 kcal
  2.6.2 meals of 300 to 500 kcal
  2.6.3 small snacks or blender/liquid meals
2.7 describe nutritional considerations for optimal recovery after strenuous activity, including:
  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 to achieve healthy weight loss and weight gain, being sure to:
- 2.9.1 identify personal optimal weight based on body mass index (BMI)
- 2.9.2 compare the effectiveness of BMI versus 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 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 (specific, measureable, achievable, realistic, timely) goal setting

3. demonstrate effective strategies for hydration during recreational and athletic activity

3.1 log liquid intake during a day
3.2 classify various liquids as hydrating or dehydrating
3.3 explain factors that influence sweat rates
3.4 justify the importance of hydration in relation 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 versus 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, including:
- 3.7.1 duration of activities
- 3.7.2 encouraging hydration with children

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

4. plan meals and snacks for a variety of activities

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 away from home

4.3 plan and evaluate foods, snacks, meals and diets for achieving optimal nutrition to satisfy athletes' needs related to promoting recovery, including:
- 4.3.1 correlating grams of carbohydrate to body weight
- 4.3.2 listing optimal food choices that contain approximately 50 grams of carbohydrates
- 4.3.3 listing optimal food choices that contain approximately 50 grams of carbohydrates and 10 grams of protein

4.4 justify a list of foods, snacks and drinks to avoid before recreational or athletic activities
4.5 recommend strategies for preventing muscle cramps
4.6 summarize general food safety advice, including:
- 4.6.1 handling and storage of hot foods
- 4.6.2 handling and storage of cold foods

4.6.3 refrigeration of mayonnaise and eggs
4.6.4 time between preparation and consumption

5. interpret nutrition information and misinformation related to active living

5.1 compare foods using nutrition labelling
5.2 identify criteria for evaluating nutrition information and misinformation
5.3 evaluate nutrition information and misinformation directed toward athletes
5.4 evaluate advertising that promotes commercial products and trends in sports nutrition, including:
5.4.1 vitamin and mineral supplementation
5.4.2 amino acid supplements
5.4.3 sports drinks
5.4.4 protein supplementation
5.4.5 energy drinks
5.4.6 carbohydrate supplementation
5.4.7 nutritional ergogenic (performance enhancing) aids; e.g., bee pollen
5.4.8 diets that eliminate certain foods; e.g., beef, milk

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

6.1 describe the influence a coach and/or recreation leader has upon perceptions of parents and/or athletes and participants
6.2 summarize appropriate topics to discuss with parents and/or athletes and participants, including:
6.2.1 importance of good diet and hydration
6.2.2 simple steps for planning general nutrition for physical activity and performance
6.3 justify when to refer parents, athletes and/or participants to registered nutritionists or medical professionals when discussing the following topics:
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. 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 REC2015: ATHLETIC DEVELOPMENT

Level: Intermediate

Prerequisite: None

Description: Students examine the Long-Term Athlete Development model and related principles of athletic skill development.

Parameters: Access to instruction from an individual who is highly knowledgeable in this area and/or trained in kinesiology, physical education and/or human movement.

Supporting Courses: REC1040: Foundations for Training 1
REC2030: Anatomy of Joints
REC2060: Leadership in Recreation & Sport
HCS1050: Musculoskeletal System
HSS2020: Nurturing Children

Outcomes: The student will:

1. evaluate the Long-Term Athlete Development (LTAD) model and related principles of holistic athletic development

- 1.1 define terms related to LTAD, including:
  - 1.1.1 physical literacy
  - 1.1.2 sport literacy
  - 1.1.3 adaptation
  - 1.1.4 trainability
  - 1.1.5 sensitive period
  - 1.1.6 specialization
- 1.2 describe factors essential to safe and effective athlete development
- 1.3 examine and compare the concepts of developmental age, chronological age, skeletal age and training age
- 1.4 compare the characteristics of each stage in the LTAD model
- 1.5 explain the principles of trainability related to capacities of an athlete, including:
  - 1.5.1 stamina
  - 1.5.2 strength
  - 1.5.3 speed
  - 1.5.4 skill
  - 1.5.5 flexibility
  - 1.5.6 psychology
  - 1.5.7 stature
  - 1.5.8 schooling
  - 1.5.9 socio-cultural factors

1.6 explain the importance of learning key fundamental skills to the development of physical literacy, including:
    1.6.1 agility
    1.6.2 balance
    1.6.3 coordination
    1.6.4 speed
    1.6.5 prediction
    1.6.6 interception
1.7 differentiate between fundamental movement skills, fundamental sport skills and specific sport techniques
1.8 identify key community and government organizations that support LTAD
1.9 summarize current issues in sport and recreation related to LTAD

2. analyze principles of anatomy related to fundamental skill development

2.1 demonstrate types of movement and joint action, including:
    2.1.1 angular movement
    2.1.2 circular movement
    2.1.3 movements special to the forearm
    2.1.4 movements special to the ankle
    2.1.5 movements special to the shoulder
2.2 describe the action of muscle groups, including:
    2.2.1 prime movers
    2.2.2 antagonists
    2.2.3 synergists
2.3 explain the role of specific muscles, bones and joints involved in fundamental movement skills, including:
    2.3.1 locomotor skills
    2.3.2 non-locomotor skills
    2.3.3 manipulative skills
2.4 describe the cardiovascular response to various types of fundamental movement during a sport or recreation activity that are:
    2.4.1 aerobic-based
    2.4.2 anaerobic-based
2.5 summarize the physiological roles of the respiratory and nervous systems related to movement

3. analyze skill development related to a specific sport, exercise and/or recreation activity

3.1 describe the fundamental skills required for a specific sport, exercise method or recreation activity
3.2 conduct baseline measurements of fundamental physical skill abilities necessary for a specific sport, exercise method or recreation activity
3.3 recommend specific sports based on:
    3.3.1 strengths identified in physical skill testing
    3.3.2 individual differences in aptitude
3.4 describe training activities to support fundamental skill development necessary for a specific sport, exercise method or recreation activity
3.5 analyze how adaptations of the musculoskeletal system and cardiovascular system are affected by:
    3.5.1 maintenance training
    3.5.2 detraining
    3.5.3 prolonged inactivity
    3.5.4 threshold training

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 skill 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 REC2020: INJURY MANAGEMENT 2

Level: Intermediate

Prerequisites: REC1020: Injury Management 1
REC1030: Technical Foundations for Injury Management

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. Opportunities are provided to practise taping and wrapping skills using a variety of techniques for prophylactic purposes only.

Parameters: Access to instruction from an individual with recognized training in athletic injury management and taping and strapping; e.g., Sport Taping and Strapping from the Sport Medicine Council of Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HCS2020: First Aid/CPR with AED
REC2010: Nutrition for Recreation 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**
   - 1.1 explain the roles of sports medicine team members specific to soft-tissue injuries
   - 1.2 assess different types of soft-tissue and joint injuries
   - 1.3 evaluate the appropriate management and treatment of soft-tissue and joint injuries
   - 1.4 analyze injuries and mechanisms of injury using observations at the time of injury, including environment, equipment, body position and direction, location and intensity of force
   - 1.5 compare advantages and disadvantages of taping versus wrapping
   - 1.6 explain situations in which the athlete would benefit from the application of stretch tape
   - 1.7 demonstrate skills for the correct and effective application of taping and wrapping with a variety of techniques, including the following:
     - 1.7.1 proper skin preparation, including identification of areas of friction and the correct application of underwrap, adherent spray and friction pads
     - 1.7.2 use of components of taping and wrapping, including anchors, functional tape strips and finishing strips
     - 1.7.3 taping applications and demonstrations that are within designated anatomical boundaries
     - 1.7.4 appropriate tape tension
     - 1.7.5 correct direction of application
     - 1.7.6 applying tape with consistent and appropriate circumferential tension
     - 1.7.7 applying tape at appropriate angles
   - 1.8 correct common errors made during taping and wrapping, including shadows, windows and wrinkles
   - 1.9 evaluate a completed basic taping and wrapping application

2. demonstrate the appropriate management and treatment of common injuries related to the foot, ankle and lower leg

- 2.1 demonstrate range of motion of the foot and ankle, including dorsiflexion, plantarflexion, inversion and eversion
- 2.2 describe common conditions of the foot, including:
  - 2.2.1 athlete's foot
  - 2.2.2 corns
  - 2.2.3 calluses
- 2.3 explain injuries of the ankle and foot, including:
  - 2.3.1 sprains
  - 2.3.2 strains
  - 2.3.3 hammer toe
  - 2.3.4 Morton's neuroma
  - 2.3.5 bunions
  - 2.3.6 black toe nails (subungual hematomas)
  - 2.3.7 bursitis
- 2.4 apply basic taping and strapping techniques to the foot, ankle and lower leg to deal with:
  - 2.4.1 plantar fasciitis
  - 2.4.2 medial tibial stress syndrome, including various techniques
- 2.5 demonstrate correct taping and strapping skills related to the foot, ankle and lower leg, including:
  - 2.5.1 heel lock
  - 2.5.2 closed basketweave to limit ankle inversion, including anchors, stirrups, horizontals/horseshoes, weave, figure eights, heel locks and closure strips
  - 2.5.3 closed basketweave modified Gibney ankle
  - 2.5.4 six stirrup double back door
  - 2.5.5 Achilles tendon support
- 2.6 describe the purpose of each technique
- 2.7 demonstrate correct positioning of the first-aider and the injured person
- 2.8 recommend fitness and conditioning principles for injury prevention
- 2.9 recommend lifestyle choices for injury prevention, including protective equipment and appropriate footwear selection
- 2.10 describe rehabilitative procedures
- 2.11 describe fitness and conditioning principles related to rehabilitation

3. demonstrate the appropriate management and treatment of common injuries related to the wrist, hand and elbow

- 3.1 demonstrate range of motion of the wrist, hand and thumb, including flexion, extension, abduction and adduction
- 3.2 demonstrate range of motion of the elbow, including flexion extension, pronation and supination
- 3.3 describe injuries of the wrist, hand and elbow, including:
  - 3.3.1 strains
  - 3.3.2 sprains
  - 3.3.3 dislocations
  - 3.3.4 carpal tunnel syndrome
  - 3.3.5 tennis elbow (lateral humeral epicondylitis)
  - 3.3.6 tendonitis
- 3.4 apply basic skills related to taping and wrapping techniques for the wrist and hand, including:
  - 3.4.1 elbow hyperextension
  - 3.4.2 tennis elbow (lateral humeral epicondylitis)

3.5 demonstrate correct application of taping and wrapping techniques for the wrist, hand and elbow, including:
  3.5.1 wrist hyperextension
  3.5.2 wrist hyperflexion
  3.5.3 contact wrist
  3.5.4 contact thumb
  3.5.5 contact thumb modification
  3.5.6 non-contact thumb (Peppard)
3.6 describe the purpose of each technique
3.7 demonstrate correct positioning of the first-aider and the injured person
3.8 recommend fitness and conditioning principles for injury prevention
3.9 recommend lifestyle choices for injury prevention, including protective equipment
3.10 describe rehabilitative procedures
3.11 describe fitness and conditioning principles related to rehabilitation

4. demonstrate the appropriate management and treatment of injuries related to the upper leg

4.1 apply basic skills related to wrapping the groin (hip spica)
4.2 demonstrate correct application of the quadriceps strain tensor support
4.3 describe the purpose for using each technique
4.4 demonstrate correct positioning for the first-aider and the injured person
4.5 recommend fitness and conditioning principles for injury prevention
4.6 recommend lifestyle choices for injury prevention, including protective equipment
4.7 describe rehabilitative procedures
4.8 describe fitness and conditioning principles related to rehabilitation

5. discuss the appropriate management and treatment of injuries related to the knee

5.1 demonstrate range of motion of the knee, including flexion, extension, medial rotation and lateral rotation
5.2 explain injuries of the knee, including:
  5.2.1 medial collateral ligament sprain
  5.2.2 lateral collateral ligament sprain
  5.2.3 cruciate (anterior and posterior cruciate) and capsular ligament sprain
  5.2.4 iliotibial band friction syndrome
  5.2.5 meniscus injuries
  5.2.6 Osgood-Schlatter syndrome
  5.2.7 patellofemoral pain syndrome
  5.2.8 patellar tendonitis
  5.2.9 subluxations
5.3 describe taping and wrapping applications that may be applied to the knee by medical professionals

6. justify return to play considerations

6.1 describe considerations for the re-evaluation of the condition of injuries after the removal of tape and wraps
6.2 describe considerations for medical clearance and parental permission
6.3 describe considerations for strength, power and endurance
6.4 describe the potential hazards of returning to play too early
6.5 demonstrate appropriate skills for active, passive and resisted range of motion testing
6.6 apply basic sport and activity specific functional tests to determine readiness for return to play, including:
  6.6.1 range of motion
  6.6.2 balance
  6.6.3 ability to withstand stress

6.6.4 visual acuity
6.6.5 proprioception

6.7 describe strategies for the assessment of psychological readiness

6.8 describe strategies for assessing limitations resulting from taping, bracing and padding

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 REC2030: ANATOMY OF JOINTS

Level: Intermediate

Prerequisite: REC1020: Injury Management 1

Description: Students evaluate how anatomy affects joint function and stability and analyze mechanisms of injury to predict potential injuries. Students acquire the knowledge and skills necessary for providing recommendations for the safe and healthy function of joints.

Parameters: Access to instruction from an individual who is highly knowledgeable in this area and/or trained in kinesiology, physical education and/or human movement.

Supporting Courses: HCS1050: Musculoskeletal System
REC1030: Technical Foundations for Injury Management
REC2020: Injury Management 2
REC3010: Human Movement

Outcomes: The student will:

1. evaluate how the anatomy of a joint affects its function

- 1.1 describe how the shape and location of bones and soft tissue affect movement and stability
- 1.2 palpate bony landmarks, such as:
  - 1.2.1 epicondyles
  - 1.2.2 malleoli
  - 1.2.3 stylus processes
  - 1.2.4 tubercles and tuberosites
- 1.3 locate the muscles and tendons attached to bony prominences, such as:
  - 1.3.1 rectus femoris muscle
  - 1.3.2 patellar tendon
  - 1.3.3 tibialis anterior muscle
  - 1.3.4 ankle extensor tendons
  - 1.3.5 hamstring muscle group
  - 1.3.6 gastrocnemius and soleus muscles
  - 1.3.7 sartorius muscle
  - 1.3.8 gracilis muscle
  - 1.3.9 wrist flexors
  - 1.3.10 wrist extensors

1.4 locate ligaments that affect joint stability, such as the:
    1.4.1 anterior talofibular ligament
    1.4.2 calcaneofibular ligament
    1.4.3 posterior talofibular ligament
    1.4.4 anterior cruciate ligament
    1.4.5 posterior cruciate ligament
    1.4.6 deltoid ligament
    1.4.7 medial collateral ligament
    1.4.8 lateral collateral ligament
    1.4.9 ulnar collateral ligament
    1.4.10 radial collateral ligament
1.5 describe how cartilage affects joint function and stability

2. analyze mechanisms of injury at various joints considering injury to muscle, ligament, cartilage and meniscus

2.1 identify mechanisms of a variety of injuries
2.2 predict possible injuries based on observed mechanism of injury
2.3 predict injury severity based on observed mechanism of injury
2.4 identify how joint injuries can be prevented

3. assess the requirements for the safe function of joints

3.1 explain how the health and strength of joints affects performance
3.2 demonstrate active, resisted and passive range of motion of joints
3.3 compare the strength, function and flexibility of:
    3.3.1 agonist muscles
    3.3.2 antagonist muscles
    3.3.3 synergists muscles
3.4 explain how bracing and taping supports joints in performance
3.5 demonstrate proprioceptive enhancing exercises for joint stability, including:
    3.5.1 lower-body stability
    3.5.2 upper-body stability

4. identify strategies that support healthy functions of joints

4.1 analyze how particular stretching techniques affect various joints, including:
    4.1.1 dynamic stretching
    4.1.2 static stretching
    4.1.3 ballistic stretching
    4.1.4 proprioceptive neuromuscular facilitation (PNF) stretching; e.g., contract-relax stretching
4.2 predict how aging will affect the healthy function of joints
4.3 describe how mismanagement of joint injuries affects long-term health of joints, including:
    4.3.1 early return to play
    4.3.2 delayed injury treatment
    4.3.3 inappropriate treatment for stage of injury cycle

5. apply principles of injury management (i.e., RICE or rest, ice, compression and elevation) to support an injured joint

5.1 explain the physiology of the inflammatory response
5.2 describe how to avoid movement of a joint after an injury
5.3 demonstrate safe practices for the application of ice, including contraindications, indications, location of ice, duration and frequency
5.4 demonstrate how to effectively compress and elevate a joint after an injury

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 REC2040: FOUNDATIONS FOR TRAINING 2

Level: Intermediate

Prerequisite: REC1040: Foundations for Training 1

Description: Students demonstrate training and movement principles related to muscular and cardiovascular development as well as the development of speed, agility, quickness and flexibility. Students apply safe practices when leading and participating in training exercises and activities.

Parameters: Access to a fitness facility.

Supporting Courses: HCS1080: Cardiovascular System
REC2010: Nutrition for Recreation Activities & Sport
REC2120: Coaching 1

Outcomes: The student will:

1. **demonstrate effective training and movement skills for the development of speed, agility and quickness**
   - 1.1 demonstrate safe practices for an exercise related to speed, agility and quickness training
   - 1.2 create an exercise that applies to speed, agility and quickness training, including:
     - 1.2.1 application of FITT (frequency, intensity, time, type) principles
     - 1.2.2 incorporation of resistance training
   - 1.3 instruct an exercise that applies to speed, agility and quickness training
   - 1.4 assess performance of an exercise that applies to speed, agility and quickness training
2. **demonstrate effective training and movement principles for muscular development, including strength, power and endurance**
   - 2.1 demonstrate safe practices for an exercise related to muscular training
   - 2.2 create an exercise that applies to muscular training, including:
     - 2.2.1 application of FITT (frequency, intensity, time, type) principles
     - 2.2.2 incorporation of resistance training
   - 2.3 instruct an exercise that applies to muscular training
   - 2.4 assess the performance of an exercise that applies to muscular training
3. **demonstrate effective training and movement principles for cardiovascular development**
   - 3.1 demonstrate safe practices for an activity related to cardiovascular training
   - 3.2 create an activity that applies to cardiovascular training and addresses FITT principles
   - 3.3 instruct an activity that applies to cardiovascular training
   - 3.4 assess the performance of an activity that applies to cardiovascular training
4. **demonstrate effective training and movement principles for the development of flexibility**
   - 4.1 demonstrate safe practices for an exercise related to flexibility training
   - 4.2 create an exercise that applies to flexibility training and addresses FITT principles
   - 4.3 instruct an exercise that applies to flexibility training
   - 4.4 assess the performance of an exercise that applies to flexibility training

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 REC2045: TRAINING FOR CORE MUSCLES

Level: Intermediate

Prerequisite: REC2040: Foundations for Training 2

Description: Students evaluate their core strength and resistance training knowledge and skills based on peer and instructor feedback. Students will demonstrate their understanding and benefits of safe and effective core strength training.

Parameters: Access to instruction from an individual who is highly knowledgeable in this area and/or trained in kinesiology, physical education and/or human movement.

Outcomes: The student will:

1. explain core-strength and resistance-training principles and exercises

- 1.1 identify the key muscle groups that comprise the core muscles groups
- 1.2 identify the specific muscle groups involved in a variety of core exercises, such as:
  - 1.2.1 basic core exercises using body weight
  - 1.2.2 yoga-related exercises
  - 1.2.3 Pilates-related exercises
  - 1.2.4 breathing exercises
  - 1.2.5 core exercises involving implements
- 1.3 identify differences in training movements for core muscle strength and muscular endurance development; e.g., rotation, anti-rotation, flexion and extension
- 1.4 describe foundational exercises that engage the core muscles, including:
  - 1.4.1 basic core exercises using body weight
  - 1.4.2 yoga-related exercises
  - 1.4.3 Pilates-related exercises
  - 1.4.4 core exercises involving implements
- 1.5 compare benefits of different types of core-strengthening and resistance-training exercises, including:
  - 1.5.1 isometric versus isotonic exercises
  - 1.5.2 free-weight, machine-weight and body-weight exercises
  - 1.5.3 time limit versus sets and repetitions

2. apply core-strength and resistance principles to training exercises

- 2.1 demonstrate proper safety considerations in relation to technique and equipment specific to core exercises, including:
  - 2.1.1 proper spotting technique
  - 2.1.2 correct posture in each exercise
  - 2.1.3 appropriate use and care of equipment
- 2.2 demonstrate foundational exercises that engage the core muscles, including:
  - 2.2.1 basic core exercises using body weight
  - 2.2.2 yoga-related exercises
  - 2.2.3 Pilates-related exercises
  - 2.2.4 breathing exercises
  - 2.2.5 core exercises involving implements

2.3 demonstrate functional resistance through:
    2.3.1 balance exercises
    2.3.2 body-weight exercises
    2.3.3 use of various resistance exercise modalities and equipment
2.4 demonstrate the elements of core-strength development in group fitness and teamwork sessions, including:
    2.4.1 group training; e.g., CrossFit, boot camp
    2.4.2 circuit training
    2.4.3 partner training
2.5 adapt traditional exercises to include engagement of core muscles; e.g., fit ball bench press, overhead triceps press on exercise ball

3. create a fitness workout that incorporates core-strength and resistance-training principles

3.1 design a core fitness component of a workout plan for a specific fitness training goal, considering:
    3.1.1 participant needs assessment
    3.1.2 the frequency, intensity, time and type (FITT) principles
    3.1.3 measures
    3.1.4 exercise modifications
3.2 lead a core fitness component of a workout
3.3 analyze the effectiveness of the core fitness component of a workout plan for consistency with FITT principles and responsiveness to a fitness training goal
3.4 revise a workout plan to improve the consistency with FITT principles in order to meet a fitness training goal

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 REC2050: SPORT PSYCHOLOGY 2

Level: Intermediate

Prerequisite: REC1050: Sport Psychology 1

Description: Students evaluate the impact of confidence, belief, emotions, self-awareness, rest and relaxation on optimal performance. Students examine the impact of perspective and identity on athletes and their athletic performance and evaluate team dynamics in relation to optimal group functioning.

Supporting Courses: HSS1050: Introduction to Mentorship
HSS3050: Becoming a Mentee
REC2040: Foundations for Training 2
REC3120: Coaching 2

Outcomes: The student will:

1. **evaluate the impact of confidence and belief on optimal performance**
   - 1.1 describe factors that detract from self-confidence, including:
     - 1.1.1 personal factors
     - 1.1.2 factors that may affect other people, such as teammates
   - 1.2 describe factors that build self-confidence, including:
     - 1.2.1 personal factors
     - 1.2.2 factors that may affect other people, such as teammates
   - 1.3 explain examples that illustrate the impact of self-confidence on performance
   - 1.4 apply tools and skills that can be used to build confidence
2. **evaluate team dynamics and the various roles within a team**
   - 2.1 describe the key principles of team dynamics required for highly functioning teams
   - 2.2 differentiate between positive and negative rivalries, including the impact of both types of rivalries on how the team is functioning
   - 2.3 differentiate between behaviours that enhance and interfere with team functioning
   - 2.4 explain the impact and benefits of having a highly functional team for both individual- and team-based sports
   - 2.5 demonstrate team-building skills and knowledge in team situations
3. **evaluate the impact of emotions and self-awareness on sport, academic and/or artistic performance**
   - 3.1 assess the impact of emotions on daily activities
   - 3.2 evaluate the role of personal emotional responses in various situations
   - 3.3 describe an ideal emotional state for optimal performance
   - 3.4 assess areas of strength related to performance, including:
     - 3.4.1 individual strengths
     - 3.4.2 strengths of peers (athletes)
   - 3.5 recommend goals for growth related to performance

4. evaluate the role of sport in relation to an athlete's identity

- 4.1 summarize the role of sport in the development of self-concept and identity
- 4.2 describe the four different identity statuses related to performance psychology, such as those described in James Marcia's Identity Status Theory:
  - 4.2.1 identity diffusion
  - 4.2.2 identity foreclosure
  - 4.2.3 identity moratorium
  - 4.2.4 identity achievement
- 4.3 evaluate individual stages of identity development
- 4.4 describe the different components used to form an individual's self-concept, including:
  - 4.4.1 roles
  - 4.4.2 values
  - 4.4.3 interests and activities
  - 4.4.4 skills and abilities
  - 4.4.5 key relationships
  - 4.4.6 life experiences
- 4.5 assess the impact that identity development has on performance
- 4.6 compare peers' perceptions of their individual qualities relative to how they see themselves without the athlete or performer role
- 4.7 predict how peers may broaden the scope of factors used to form their identities in the future
- 4.8 challenge peers' perceptions of how others perceive them
- 4.9 interpret how peers' self-perceptions and how they feel they are perceived affect their sport performance
- 4.10 recommend resources and strategies to assist in building one's positive self-concept
- 4.11 justify the significance of self-awareness in sport and life
- 4.12 interpret how various athletes cope with retiring from competitive sport
- 4.13 recommend strategies to ease the transition from competitive sport to retirement

5. evaluate the role of perspective on sport performance

- 5.1 describe the concept of "perspective" and the impact it has on performance
- 5.2 evaluate each component of perspective, including:
  - 5.2.1 value system
  - 5.2.2 life priorities
  - 5.2.3 unconditional support network
- 5.3 justify how perspective influences to self-talk
- 5.4 evaluate the role of perspective in our sport culture
- 5.5 assess what influences personal perception of sport and other life priorities
- 5.6 assess a peer's ability to keep his or her sport performance in perspective by:
  - 5.6.1 assessing the role of perspective
  - 5.6.2 questioning what influences an athlete's perspective of sport
  - 5.6.3 assessing a peer's individual qualities relative to perspective
  - 5.6.4 interpreting a peer's perception of sport in relation to other life priorities
  - 5.6.5 recommending strategies for a peer to create or maintain a healthy perspective of sport and life

6. evaluate the impact of rest and recovery for optimal performance

- 6.1 evaluate the impact of various types of fatigue on performance, including:
  - 6.1.1 physical
  - 6.1.2 psychological
  - 6.1.3 social
  - 6.1.4 emotional
  - 6.1.5 intellectual

6.2 differentiate between overtraining, under-recovery, and burn-out
6.3 describe signs and symptoms of under-recovery
6.4 explain rest and recovery skills and strategies
6.5 recommend strategies for an athlete to communicate his or her body's rest and recovery perceptions to coaches

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 REC2060: LEADERSHIP IN RECREATION & SPORT

Level: Intermediate

Prerequisite: None

Description: Students learn basic skills and developmental principles for teaching recreation activities and foundational movement concepts to children and youth.

Parameters: Access to sports teams in the school and/or community and to instruction from an individual with recognized training in coaching.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: CCS1080: Community Volunteerism 1
HCS2020: First Aid/CPR with AED
HSS1030: Communication Skills for Health Professionals
HSS2020: Nurturing Children
REC1020 Injury Management 1

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 for recreation activities by:
  - 1.2.1 describing the central focus of the model based in research
  - 1.2.2 explaining the concept of "individual perceptions," including perceived competence and perceived benefit and/or cost
  - 1.2.3 explaining the concept of "social influences"
  - 1.2.4 explaining the concept of "physical supports"
  - 1.2.5 explaining the concept of "personal demographics"
  - 1.2.6 justifying 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 by:
  - 1.4.1 defining motivation and amotivation, including a description of intrinsic and extrinsic motivation
  - 1.4.2 applying a definition of motivation to the involvement of children and youth in sport and recreation
- 1.5 plan to create a mastery motivational climate, including considerations for:
  - 1.5.1 task
  - 1.5.2 authority
  - 1.5.3 recognition
  - 1.5.4 grouping
  - 1.5.5 evaluation
  - 1.5.6 time
- 1.6 justify how culture is a component of motivation and desire to participate in recreation activities
- 1.7 explain the concept of Fair Play and the Do No Harm Principle

2. **demonstrate basic principles and strategies for effective instruction when leading an activity**
   - 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 demonstrate a variety of instructional styles, including direct instruction, indirect instruction and limited instruction
   - 2.5 shape communication effectively for audience and activity
   - 2.6 monitor progress of participants
   - 2.7 monitor for on-task behaviour
   - 2.8 give feedback
   - 2.9 demonstrate flexibility in response to the needs of participants observed during activity
   - 2.10 demonstrate effective communication strategies, being sure to:
     - 2.10.1 describe personal communication style
     - 2.10.2 identify personal nonverbal communication that affects communication with others
     - 2.10.3 demonstrate active listening skills when leading activities
     - 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. **explore learning preferences to maximize instructional strategies for recreation activities**
   - 3.1 explore personal learning preferences and consider related instructional strategies to support understanding and communication
   - 3.2 recommend specific instructional strategies to address diverse learning preferences and learner needs
4. **examine stages of development in childhood, adolescence and adults as they apply to recreation planning**
   - 4.1 summarize specific considerations based on development and gender for children and youth ages 3 to 5, 6 to 7, 8 to 9, 10 to 11, 12 to 15 and 16 to 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 adult participants
   - 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 individualized
     - 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 the acquisition of fundamental movement skills to allow for enjoyable and successful participation of children in sport and recreation
   - 5.2 define physical literacy
   - 5.3 categorize generic movement skills to teach in three categories: locomotor skills, non-locomotor skills and manipulative skills
   - 5.4 outline the three phases of skill development with generic movement skills: initial phase, formative phase and mature phase

5.5 outline the following 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, including:
- 5.6.1 describing the characteristics of mature form for each skill
- 5.6.2 demonstrating each skill effectively
- 5.6.3 predicting common areas to observe during instruction
- 5.6.4 recommending tips for helping children learn to run
- 5.6.5 creating games to practise skills
- 5.6.6 moving to a suitable location to observe skill development
- 5.6.7 identifying preparation force production, critical instant and follow-through/recovery with various movement skills
- 5.6.8 communicating effectively during instruction
- 5.6.9 providing 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 REC2070: FUNCTIONAL INDEPENDENCE TRAINING PROGRAM LEADER

Level: Intermediate

Prerequisites: HCS1050: Musculoskeletal System
HCS1080: Cardiovascular System
HCS2020: First Aid/CPR with AED

Description: Students learn general guidelines for practical, safe and appropriate movements in a physical activity program for older adults. This course will enable students to lead a safe exercise session by providing effective and appropriate exercises that meet the needs of apparently healthy participants.

Parameters: Access to a seniors' facility with an active living coordinator and to instruction from an individual that has met the training requirements of Fitness Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: CCS3030: Aging
HCS2050: Nervous System & Senses
HCS2060: Endocrine System
HCS2130: Chronic Conditions
HSS1030: Communication Skills for Health Professionals

Outcomes: The student will

1. **evaluate the roles, responsibilities and basic principles of leadership in the context of a seniors' facility (Ever Active Leadership model)**
   - 1.1 outline the qualities of an effective Active Living Coordinator
   - 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 by:
     - 1.3.1 exploring the benefits of active living noted by recognized organizations
     - 1.3.2 exploring the risk factors associated with a sedentary lifestyle
   - 1.4 summarize reasons for promoting an active living facility, including:
     - 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
   - 1.6 summarize the nutritional needs of aging adults based on *Canada's Food Guide*
   - 1.7 evaluate the determinants of health as noted by Health Canada
   - 1.8 define functional independence
   - 1.9 examine the importance of each component of functional independence to overall health and wellness of older adults; e.g., strength, muscular endurance, cardiovascular endurance, flexibility, 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 for residents within the context of a seniors' facility

2.1 demonstrate an understanding of the physiological basis of health conditions and related signs and symptoms
2.2 apply effective motivational strategies
2.3 demonstrate safe practices when planning and leading physical activity opportunities, including:
  2.3.1 warm-up and cool-down
  2.3.2 group and individual activities that build endurance, flexibility and strength
2.4 demonstrate effective monitoring strategies and assessment practices to minimize risk
2.5 modify planning and activities, considering:
  2.5.1 general and specific recommendations for physical activity for older adults with special conditions
  2.5.2 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 the context of a seniors' facility

3.1 summarize general programming recommendations for each of the components of functional independence
3.2 define terms related to asset mapping, including:
  3.2.1 asset map
  3.2.2 assets
  3.2.3 gifts
  3.2.4 talents
  3.2.5 inventory
  3.2.6 resources
3.3 create and share an asset map with categories related to characteristics of the 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 summarize tips for communicating effectively with all key stakeholders to create support for an active living program in the context of a seniors' facility
3.5 implement one strategy to improve community awareness and support for an active living program in seniors' facility
3.6 demonstrate effective strategies for educating community members and residents about the importance of active living programming
3.7 identify the ways an active living program coordinator manages a quality program, including:
  3.7.1 describing ways to find funding for an active living program
  3.7.2 outlining facility policies related to programming and operations that have implications for the development and implementation of an active living program

3.8 identify ways to assess the quality of an active living program, including:
  3.8.1 preparing a Capacity Inventory of a facility and its residents to determine how to connect with the community
  3.8.2 preparing an inventory of community assets and possible resources
  3.8.3 developing a plan linking assets to the needs of an active living program
  3.8.4 creating a community asset map
3.9 identify goals for implementing or improving an active living program based on the following considerations:
  3.9.1 Public Health Agency of Canada's *Physical Activity Guide to Healthy Active Living 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 strategy to improve an active living program
3.11 implement at least one 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

COURSE REC2120: COACHING 1

Level: Intermediate

Prerequisite: None

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. Students develop an appreciation for the role of coaches in community recreation programs.

Parameters: Access to sports teams in the school and/or community and to instruction from an individual with recognized training in coaching.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HCS2020: First Aid/CPR with AED
HSS2020: Nurturing Children
REC1020: Injury Management 1
REC2010: Nutrition for Recreation Activities & Sport
REC2060: Leadership in Recreation & Sport

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 considering the following key questions:
     - 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 in 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
   - 1.8 describe the process of team-building
2. **analyze sports skills to inform practice planning and program design**
   - 2.1 describe the characteristics of a skilled sport performance, including:
     - 2.1.1 a high degree of certainty of achieving the desired result
     - 2.1.2 a high degree of precision
     - 2.1.3 an efficient performance

2.2 categorize sport skills according to three categories of environment: closed, open and combined skills
2.3 classify several sport skills according to beginning and end points in 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 and creative variations
2.5 describe key points to consider and the roles and responsibilities of athletes at each stage of athletic development
2.6 classify the following athletic abilities into four categories—physical abilities, motor abilities, tactical abilities and mental skills:
- 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, on a four point scale in the four categories of athletic ability, the importance of skills for various sports, including:
- 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, such as fencing and water skiing

2.8 summarize developmental considerations for skill development based on age, including ages 3 to 5, 6 to 7, 8 to 9, 10 to 11, 12 to 15, 16 to 17, and adults, being sure to:
- 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 explain the NCCP definition of the challenge zone
3.2 develop activities for a practice that have appropriate time allotments
3.3 justify the importance of goal-oriented activity considering the challenge zone
3.4 describe key points and guidelines for training all areas of athletic ability

3.5 justify a choice of activities for the following types of practices, describing reasons for recommending and not recommending activities:
  3.5.1 part practice
  3.5.2 progressive part practice
  3.5.3 whole practice
  3.5.4 massed practice
  3.5.5 distributed practice
  3.5.6 constant practice
  3.5.7 variable practice
3.6 summarize several practice planning tips specific to coaching
3.7 plan a practice, considering:
  3.7.1 growth and development based on age of athletes
  3.7.2 performance versus learning
  3.7.3 rate of improvement and amount of practice time
  3.7.4 short-term and long-term effects of using specific practice conditions and types (random practice)
3.8 select activities for a practice considering stages of skill development in relation to recommended practice conditions, including:
  3.8.1 surrounding environment
  3.8.2 available equipment
  3.8.3 decision making
  3.8.4 speed of execution
  3.8.5 number of repetitions
  3.8.6 risk factors
  3.8.7 emphasis of training
3.9 lead a practice
3.10 evaluate the plan using key training principles as guidelines, including:
  3.10.1 adaptation
  3.10.2 specificity
  3.10.3 overload
  3.10.4 individuality
  3.10.5 progression
  3.10.6 purpose
  3.10.7 recovery

4. implement basic mental skills training in a coaching context

4.1 describe the relationship between mental skills and Ideal Performance State (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 IPS
4.3 describe mental strategies used by successful athletes
4.4 define terms related to attentional control, including automatic and controlled information processing
4.5 demonstrate strategies to improve attentional control, including:
  4.5.1 recognition of the signs of difficulty focusing
  4.5.2 application of attentional dimensions of width and direction to various sport skills
  4.5.3 categorization of sports based on few or many shifts
  4.5.4 identification of sources and examples of potential distracters in various coaching contexts
4.6 lead activities and sessions to improve basic focusing skills, including activities for improving concentration, shuttling and managing distracters
4.7 define terms related to emotional control, including ideal emotional state (IES), stimulus or trigger, anxiety and stress
4.8 compare the Inverted U Theory and the Theory of Zones of Optimal Functioning as they relate to sport

4.9 demonstrate strategies for improving emotional control, including:
- 4.9.1 identification of several common emotions experienced in sport
- 4.9.2 recognition of the signs of anxiety problems
- 4.9.3 differentiation between functional and dysfunctional anxiety
- 4.9.4 evaluation of the four stages of stress (according to the NCCP): demand, perception of demand, stress response and performance consequence
- 4.9.5 evaluation of the relationship between arousal and performance
- 4.9.6 prediction of sport situations that are most conducive to high, moderate and low arousal levels based on the Inverted U Theory

4.10 describe myths related to stress and sport, including:
- 4.10.1 the myth that all stress in sport is bad
- 4.10.2 the myth that some athletes do not experience stress

4.11 describe possible causes of negative anxiety, including physical (somatic) and cognitive (mental) causes

4.12 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

4.13 lead activities that combine emotional and attentional control in preparation for performance

4.14 teach a process for improving focus and/or decreasing anxiety, including the steps of normalization, self-awareness, skill development, simulation (in practice) and implementation (in competition)

4.15 demonstrate skills for setting goals with athletes and teams, being sure to:
- 4.15.1 describe the purpose and benefits of collaborative goal setting
- 4.15.2 outline questions to answer during goal setting with athletes
- 4.15.3 differentiate between process goals and outcome goals
- 4.15.4 differentiate between short-term goals and long-term goals
- 4.15.5 outline the necessary information to obtain before beginning the goal-setting process

4.16 demonstrate steps in the goal-setting process with athletes, including:
- 4.16.1 establishing the importance or meaning of the experience
- 4.16.2 identifying areas that need work
- 4.16.3 specifying goals for the season or year
- 4.16.4 determining the criteria for success
- 4.16.5 developing a road map for success
- 4.16.6 developing 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 REC2910: REC PROJECT B

Level: Intermediate

Prerequisite: None

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

Parameters: Intermediate project courses must connect with a minimum of two CTS courses, one of which must be at the intermediate level and be in the same occupational area as the project course. The other CTS course(s) can be at any level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

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 connection between this project course and two or more CTS courses**
   - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
   - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
2. **propose the project and/or performance**
   - 2.1 identify the project and/or performance by:
     - 2.1.1 preparing a plan
     - 2.1.2 clarifying the purposes
     - 2.1.3 defining the deliverables
     - 2.1.4 specifying time lines
     - 2.1.5 explaining terminology, tools and processes
     - 2.1.6 defining 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 the 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 the project and/or performance and make necessary adjustments
   - 3.3 present the project and/or performance, indicating the:
     - 3.3.1 outcomes attained
     - 3.3.2 relationship of outcomes to goals originally set

3.4 evaluate the project and/or performance, indicating the:
    3.4.1 processes and strategies used
    3.4.2 recommendations on 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 REC2920: REC PROJECT C

Level: Intermediate

Prerequisite: None

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

Parameters: Intermediate project courses must connect with a minimum of two CTS courses, one of which must be at the intermediate level and be in the same occupational area as the project course. The other CTS course(s) can be at any level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

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 connection between this project course and two or more CTS courses**
   - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
   - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
2. **propose the project and/or performance**
   - 2.1 identify the project and/or performance by:
     - 2.1.1 preparing a plan
     - 2.1.2 clarifying the purposes
     - 2.1.3 defining the deliverables
     - 2.1.4 specifying time lines
     - 2.1.5 explaining terminology, tools and processes
     - 2.1.6 defining 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 the 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 the project and/or performance and make necessary adjustments
   - 3.3 present the project and/or performance, indicating the:
     - 3.3.1 outcomes attained
     - 3.3.2 relationship of outcomes to goals originally set

3.4 evaluate the project and/or performance, indicating the:
    3.4.1 processes and strategies used
    3.4.2 recommendations on 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 REC2950: REC INTERMEDIATE PRACTICUM

Level: Intermediate

Prerequisite: None

Description: Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Parameters: This practicum course, which may be delivered on- or off-campus, should be accessed only by students continuing to work toward attaining a recognized credential/credentials or an articulation offered by an external organization. This course must be connected to at least one CTS course from the same occupational area and cannot be used in conjunction with any advanced (3XXX) level course. A practicum course cannot be delivered as a stand-alone course, cannot be combined with a CTS project course and cannot be used in conjunction with the Registered Apprenticeship Program or the Green Certificate Program.

Outcomes: The student will:

1. perform assigned tasks and responsibilities, as required by the organization granting the credential(s) or articulation
- 1.1 identify regulations and regulatory bodies related to the credential(s) or articulation
- 1.2 describe personal roles and responsibilities, including:
  - 1.2.1 key responsibilities
  - 1.2.2 support functions/responsibilities/expectations
  - 1.2.3 code of ethics and/or conduct
- 1.3 describe personal work responsibilities and categorize them as:
  - 1.3.1 routine tasks; e.g., daily, weekly, monthly, yearly
  - 1.3.2 non-routine tasks; e.g., emergencies
  - 1.3.3 tasks requiring personal judgement
  - 1.3.4 tasks requiring approval of a supervisor
- 1.4 demonstrate basic employability skills and perform assigned tasks and responsibilities related to the credential(s) or articulation

2. analyze personal performance in relation to established standards
- 2.1 evaluate application of the attitudes, skills and knowledge developed in related CTS courses
- 2.2 evaluate standards of performance in terms of:
  - 2.2.1 quality of work
  - 2.2.2 quantity of work
- 2.3 evaluate adherence to workplace legislation related to health and safety
- 2.4 evaluate the performance requirements of an individual who is trained, experienced and employed in a related occupation in terms of:
  - 2.4.1 training and certification
  - 2.4.2 interpersonal skills
  - 2.4.3 technical skills
  - 2.4.4 ethics

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 REC3010: HUMAN MOVEMENT

Level: Advanced

Prerequisite: HCS1050: Musculoskeletal System

Description: Students acquire advanced knowledge and skills necessary for the application of the basic principles of movement and biomechanics to a variety of physical activities. Students gain an appreciation for how biomechanics can impact the health and wellness of individuals and their families, peers and communities.

Supporting Courses: REC2020: Injury Management 2
REC2040: Foundations for Training 2

Outcomes: The student will:

1. **explain the anatomy and physiology of muscles and muscle movement**
   - 1.1 describe the structure of muscle, including a description of:
     - 1.1.1 connective tissues
     - 1.1.2 fascicles
     - 1.1.3 deep fascia
     - 1.1.4 muscle fibres (myosin and actin)
     - 1.1.5 sarcomeres
   - 1.2 explain the events that produce a muscle action, including the sliding filament mechanism
   - 1.3 explain the action of several muscle pairs in the skeletal system acting as agonist and antagonist pairs, including:
     - 1.3.1 muscles that move the shoulder and arm
     - 1.3.2 muscles that move the forearm and hand
     - 1.3.3 muscles of the abdomen
     - 1.3.4 deep muscles of the back
     - 1.3.5 muscles that move the thigh and leg
     - 1.3.6 muscles that move the ankle and foot
   - 1.4 map the movement of nerve impulses to individual muscles for voluntary and involuntary movement
   - 1.5 describe the function of motor units
   - 1.6 explain the function of the neuromuscular junction
2. **explain principles of biomechanics related to injury prevention and human performance enhancement**
   - 2.1 describe current principles of biomechanics
   - 2.2 explain how biomechanics can be used to enhance performance
   - 2.3 explain how biomechanics can impact injury prevention
   - 2.4 explain how biomechanics impact energy levels and prevent muscle fatigue

3. **evaluate how biomechanics impacts human movement**
   - 3.1 differentiate between muscle tone, isotonic contractions and isometric contractions
   - 3.2 demonstrate basic movement principles by:
     - 3.2.1 applying principles of first-class levers to body movements
     - 3.2.2 applying principles of second-class levers to body movements
     - 3.2.3 applying principles of third-class levers to body movements
   - 3.3 demonstrate several different types of movements and joint actions, including:
     - 3.3.1 angular (flexion, extension, abduction and adduction)
     - 3.3.2 circular (circumduction and rotation)
     - 3.3.3 special to forearm (supination and pronation)
     - 3.3.4 special at ankle (inversion, eversion, dorsiflexion and plantar flexion)
     - 3.3.5 special at the shoulder (protraction, retraction, elevation and depression)
   - 3.4 list several skills and related movements from daily living, physical activity or athletics that have a high incidence of injury due to improper biomechanics
   - 3.5 explain how the acquisition of a skill and poor execution of skill impact the health of a joint
4. **design a movement pattern to enhance the performance of a physical skill**
   - 4.1 observe the movement patterns necessary for a specific physical skill
   - 4.2 analyze observations to determine effective and ineffective movement patterns
   - 4.3 instruct effective and/or modified movement patterns to enhance the physical skill
   - 4.4 evaluate effectiveness of instruction
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. **create a transitional strategy to accommodate personal changes and build personal values**
   - 6.1 identify short-term and long-term goals
   - 6.2 identify steps to achieve goals

COURSE REC3015: FLEXIBILITY TRAINING

Level: Advanced

Prerequisite: REC2040: Foundations for Training 2

Description: Students explore and demonstrate various forms of flexibility training in relation to development of training programs.

Parameters: Access to a fitness facility and to instruction from an individual who is highly knowledgeable in the area and/or trained in kinesiology, physical education and/or human movement.

Supporting Courses: HCS1050: Musculoskeletal System
REC2030: Anatomy of Joints

Outcomes: The student will:

1. explain flexibility training

- 1.1 explain the physiology of flexibility training for:
  - 1.1.1 range of motion (ROM); e.g., optimal and normal
  - 1.1.2 upper and lower crossed syndrome
  - 1.1.3 connective tissue; e.g., myofascia
- 1.2 explain the methods of flexibility training, including:
  - 1.2.1 static stretching
  - 1.2.2 dynamic stretching
  - 1.2.3 proprioceptive neuromuscular facilitation (PNF) stretching
  - 1.2.4 self-myofascial release exercises
  - 1.2.5 specialized equipment; e.g., foam rollers, bands and balls
- 1.3 explain the benefits of flexibility training, including:
  - 1.3.1 increased range of motion (ROM)
  - 1.3.2 development of body awareness
  - 1.3.3 improved performance
  - 1.3.4 injury prevention; e.g., flexibility reserve
  - 1.3.5 improved body alignment and posture
  - 1.3.6 enhanced warm-up and cool-down in an exercise session
  - 1.3.7 rehabilitation
  - 1.3.8 enhanced recovery through stress or tension reduction
- 1.4 explain factors that affect flexibility, such as:
  - 1.4.1 elasticity of muscle fibres and muscle fascia
  - 1.4.2 bone and joint structure
  - 1.4.3 joint stability
  - 1.4.4 injury
  - 1.4.5 scar tissue
  - 1.4.6 overuse due to activities of a sport or an occupation

2. measure the flexibility level of various areas of focus

2.1 measure the flexibility level in a multitude of joints, such as the:
- 2.1.1 shoulders
- 2.1.2 hips
- 2.1.3 spine
- 2.1.4 wrists
- 2.1.5 ankles
- 2.1.6 elbows

2.2 measure the flexibility level of muscle groups, such as the:
- 2.2.1 pectoral muscles
- 2.2.2 quadriceps
- 2.2.3 gluteal muscles
- 2.2.4 hamstring muscles
- 2.2.5 lower leg muscles (e.g., gastrocnemius and soleus)

2.3 measure flexibility and record results at various times, including:
- 2.3.1 prior to beginning a workout plan (i.e., establish a baseline)
- 2.3.2 before a dynamic warm-up
- 2.3.3 after a dynamic warm-up
- 2.3.4 after a static stretching
- 2.3.5 during post-training

3. demonstrate a variety of ways to improve flexibility

3.1 demonstrate dynamic stretches appropriate in a variety of warm-up activities

3.2 demonstrate static stretches appropriate for the:
- 3.2.1 warm-up
- 3.2.2 cool-down
- 3.2.3 complete workout

3.3 demonstrate safe proprioceptive neuromuscular facilitation (PNF) stretches using a variety of appropriate techniques, such as:
- 3.3.1 hold-relax
- 3.3.2 contract-relax
- 3.3.3 contract-relax antagonist contract (CRAC)
- 3.3.4 rhythmic initiation
- 3.3.5 rhythmic stabilization
- 3.3.6 slow reversal

3.4 demonstrate the use of a variety of tools to improve flexibility; e.g., foam rollers, bands and balls

4. implement a flexibility training session that meets the needs of a chosen audience

4.1 design a flexibility session utilizing dynamic and static stretching for the various aspects of a workout, including the:
- 4.1.1 warm-up
- 4.1.2 cool-down
- 4.1.3 entire session

4.2 facilitate a flexibility training session

4.3 assess a flexibility training session using determined criteria and strategies, including:
- 4.3.1 completing a head-to-toe routine
- 4.3.2 ensuring muscle groups and joints are utilized
- 4.3.3 considering the overall order and timing of activities

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. create a transitional strategy to accommodate personal changes and build personal values

6.1 identify short-term and long-term goals

6.2 identify steps to achieve goals

COURSE REC3020: INJURY MANAGEMENT 3

Level: Advanced

Prerequisites: REC2020: Injury Management 2
REC3010: Human Movement

Description: Students analyze prevention, assessment and management techniques specifically related to bone, joint and soft-tissue injuries that may occur during recreation and sporting events and activities. Students evaluate sport-specific injuries considering injury prevention, mechanisms of injury, anatomy, joint structure, signs and symptoms, treatments, associated taping, strapping and wrapping options, and rehabilitation. Numerous opportunities to demonstrate and apply various prophylactic taping techniques are provided.

Parameters: Access to instruction from an individual with recognized training in athletic first injury management and taping and strapping.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Outcomes: The students will:

1. **analyze ways in which taping, bracing and equipment can impact the acquisition and execution of skills**
   - 1.1 analyze and demonstrate principles for the correct and effective application of stretch tape
   - 1.2 identify characteristics of cohesive bandage
   - 1.3 evaluate situations in which you would use cohesive bandage
   - 1.4 evaluate various ways taping and bracing can prevent injuries
   - 1.5 assess how advances in taping, bracing and equipment technology have impacted performance
   - 1.6 explain how stages of injury rehabilitation can affect joint biomechanics and performance
   - 1.7 analyze how proper biomechanics can reduce the probability of re-injury or chronic injury
   - 1.8 compare and contrast the advantages and disadvantages of bracing to those of taping and strapping
   - 1.9 summarize appropriate protocol for removing an injured athlete's equipment and clothing, being sure to:
     - 1.9.1 explain techniques
     - 1.9.2 analyze boundaries
   - 1.10 apply effective taping and bracing techniques to support movement for:
     - 1.10.1 active living
     - 1.10.2 minor injuries
     - 1.10.3 sport and athletic performance
     - 1.10.4 rehabilitation and return to play
2. **apply taping and strapping skills to the foot, ankle, lower leg, hip and thigh**
   - 2.1 analyze how ankle joint structure creates vulnerabilities for various injuries
   - 2.2 apply basic skills related to several taping and wrapping techniques to the foot and ankle using cloth and tape, including:
     - 2.2.1 closed basketweave with variations
     - 2.2.2 heel locks with variations
     - 2.2.3 longitudinal arch support

2.3 demonstrate correct application of taping and wrapping techniques to the ankle, foot and lower leg, including:
    2.3.1 cloth Louisiana ankle wrap
    2.3.2 closed basketweave modified Gibney
    2.3.3 plantar fasciitis
    2.3.4 medial tibial pain syndrome (various techniques)
2.4 demonstrate basic skills related to taping and wrapping techniques for the hip and thigh, limited to the groin (hip spica)
2.5 describe the purpose for using each technique
2.6 demonstrate correct positioning for the first-aider and the injured person

3. demonstrate taping and strapping skills to the upper body, including the wrist, hand, elbow and shoulder

3.1 demonstrate correct application of taping and wrapping techniques to the wrist and hand, including:
    3.1.1 elbow hyperextension butterfly technique with tensor closure
    3.1.2 tennis elbow (lateral epicondylitis)
    3.1.3 forearm tape splint
3.2 describe the purpose for using each technique for the wrist, hand and elbow
3.3 demonstrate correct positioning for the first-aider and the injured person for the wrist, hand and elbow
3.4 demonstrate appropriate management and treatment of injuries related to the shoulder using multiple case studies
3.5 demonstrate range of motion of the shoulder, including:
    3.5.1 flexion
    3.5.2 extension
    3.5.3 abduction
    3.5.4 adduction
    3.5.5 medial and internal rotation
    3.5.6 lateral and external rotation
    3.5.7 combinations of movement
3.6 explain the structure of the shoulder, including bones, ligaments, tendons and muscles
3.7 explain how the structure of the shoulder affects stability
3.8 justify the necessity of a professional medical attention to address injuries of the shoulder
3.9 evaluate inappropriate use of taping and strapping
3.10 recommend fitness and conditioning principles for injury prevention
3.11 recommend lifestyle choices for injury prevention, including protective equipment
3.12 describe common injuries of the shoulder, such as dislocations of:
    3.12.1 glenohumeral joint
    3.12.2 acromioclavicular joint
    3.12.3 sternoclavicular joint
3.13 demonstrate joint immobilization techniques appropriate for shoulder dislocations

4. explain common injuries to the thorax and abdomen suffered during sport participation

4.1 differentiate between signs and symptoms of injuries to the thorax and abdomen, such as hernias and spleen, kidney, appendix and lung injuries
4.2 explain treatment options for thoracic and abdominal injuries
4.3 summarize fitness and conditioning principles for prevention of thoracic and abdominal injuries, including the use of protective equipment
4.4 describe rehabilitative procedures
4.5 describe fitness and conditioning principles related to rehabilitation

5. demonstrate the appropriate prevention, management, treatment and rehabilitation of injuries common to a specific sport

- 5.1 assemble a sport-specific trauma kit
- 5.2 analyze the role of protective equipment in the particular sport
- 5.3 explain the care and maintenance of equipment in the particular sport
- 5.4 create a training plan in relation to the sport to ensure proper techniques in warm up, training, practice, competition or active participation and cool down for injury prevention
- 5.5 analyze common injuries related to a particular sport by:
  - 5.5.1 evaluating mechanism of injury
  - 5.5.2 explaining signs and symptoms
  - 5.5.3 planning appropriate treatment
  - 5.5.4 demonstrating practical applications of taping and wrapping
  - 5.5.5 creating a plan for rehabilitation
  - 5.5.6 evaluating return to play protocols

6. analyze ethical considerations related to the field of athletic therapy in a variety of circumstances or situations

- 6.1 analyze the governing body's code of ethics; e.g., Alberta Athletic Therapists Association Code of Ethics)
- 6.2 create a personal code of ethics
- 6.3 describe the scope of practice of Athletic Therapist in Alberta
- 6.4 describe legal implication of practice of Athletic Therapist in Alberta

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. create a transitional strategy to accommodate personal changes and build personal values

- 8.1 identify short-term and long-term goals
- 8.2 identify steps to achieve goals

COURSE REC3025: CARDIOVASCULAR TRAINING

Level: Advanced

Prerequisite: REC2040: Foundations for Training 2

Description: Students learn cardiovascular training principles and strategies to measure cardiovascular fitness. They explore a variety of modalities for cardiovascular training and then use this knowledge to plan, lead and evaluate a cardiovascular training session.

Parameters: Access to a fitness facility and to instruction from an individual who is highly knowledgeable in this area and/or trained in kinesiology, physical education and/or human movement.

Supporting Course: HCS1080: Cardiovascular System

Outcomes: The student will:

1. explain cardiovascular training principles
- 1.1 define cardiovascular training and terms, including:
  - 1.1.1 interval training
  - 1.1.2 cross-training
  - 1.1.3 long slow distance training
  - 1.1.4 tempo pace training
- 1.2 define maximal aerobic capacity (i.e., maximum VO_2)
- 1.3 define aerobic respiration and anaerobic respiration
- 1.4 differentiate between anaerobic threshold and anaerobic capacity
- 1.5 explain the benefits of cardiovascular training, including:
  - 1.5.1 increasing aerobic endurance or maximum VO_2
  - 1.5.2 increasing anaerobic threshold and anaerobic capacity
  - 1.5.3 maximizing muscle glycogen utilization
  - 1.5.4 improving efficiency of movement
  - 1.5.5 improving ability to remove lactate and delay lactate threshold
  - 1.5.6 reducing delayed onset muscle soreness
- 1.6 describe physiological adaptations to cardiovascular training

2. measure cardiovascular fitness level and intensity in training workouts
- 2.1 measure aerobic intensity using the following methods:
  - 2.1.1 perceived exertion
  - 2.1.2 heart rate; e.g., radial or carotid pulse
  - 2.1.3 heart rate monitors
  - 2.1.4 resting heart rate
  - 2.1.5 talk
  - 2.1.6 time
  - 2.1.7 training to zones
- 2.2 explain methods of evaluating anaerobic capacity, such as the:
  - 2.2.1 300-yard shuttle run
  - 2.2.2 Henman shuttle test
  - 2.2.3 300, 400 or 800 metre run test
  - 2.2.4 500 metre row test

2.3 describe one or more effective methods of determining aerobic fitness level, such as:
    2.3.1 the Leger 20 metre shuttle run test
    2.3.2 the 12 minute run
    2.3.3 the 1 mile walk test
    2.3.4 the 3 kilometre run
    2.3.5 heart rate recovery (HRR)
2.4 record cardiovascular fitness levels, including:
    2.4.1 baseline assessment
    2.4.2 post-training assessment

3. demonstrate skills to improve cardiovascular fitness

3.1 explain the benefits of cardiovascular training methods, including:
    3.1.1 cross-training
    3.1.2 long slow distance training
    3.1.3 interval training
    3.1.4 tempo pace training
3.2 perform cardiovascular training methods, including:
    3.2.1 interval training
    3.2.2 cross-training
    3.2.3 long slow distance training
    3.2.4 tempo pace training
3.3 design a cardiovascular training session that incorporates one or more methods of cardiovascular training with consideration of the FITT principle
3.4 facilitate a cardiovascular training session
3.5 evaluate a cardiovascular training session based on the variety of fitness levels and overall training goal(s) of the participants

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. create a transitional strategy to accommodate personal changes and build personal values

5.1 identify short-term and long-term goals
5.2 identify steps to achieve goals

COURSE REC3030: SPEED & AGILITY

Level: Advanced

Prerequisite: REC2040: Foundations of Training 2

Description: Students explore innovative and advanced techniques for speed and agility development in relation to sport and recreation.

Parameters: Access to a fitness facility and to instruction from an individual who is highly knowledgeable in this area and/or trained in kinesiology, physical education and/or human movement.

Outcomes: The student will:

1. interpret how training and movement principles can affect the development of speed and agility

- 1.1 describe speed, including:
  - 1.1.1 linear speed
  - 1.1.2 lateral speed
  - 1.1.3 acceleration
  - 1.1.4 change of direction
  - 1.1.5 recognition of pace
  - 1.1.6 stride analysis
- 1.2 describe agility, including:
  - 1.2.1 balance
  - 1.2.2 anticipation
  - 1.2.3 momentum and inertia
  - 1.2.4 manoeuvering and changing velocities
  - 1.2.5 kinesthetic awareness
  - 1.2.6 reaction time
- 1.3 analyze the components of agility, including:
  - 1.3.1 body position
  - 1.3.2 visual focus
  - 1.3.3 leg action
  - 1.3.4 arm action
  - 1.3.5 braking mechanics

2. perform training and movement skills for the development of speed and agility

- 2.1 perform techniques and drills to improve speed, including:
  - 2.1.1 running mechanics
  - 2.1.2 running drills
  - 2.1.3 interval training
  - 2.1.4 resistance training specific for acceleration and speed development
- 2.2 perform various techniques and drills to improve agility, such as drills incorporating:
  - 2.2.1 ladders, steps or stairs, cones, hurdles and/or skipping
  - 2.2.2 reaction balls and/or medicine balls
- 2.3 assess performance of techniques and drills to improve speed and agility

3. design and implement a speed and agility training plan

3.1 design a training session incorporating two or more methods of speed and agility drills
3.2 facilitate a speed and agility training session
3.3 assess training drills with implementation of a test/retest protocol
3.4 evaluate the effectiveness of a speed and agility training plan

4. demonstrate basic competencies

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

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

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

5. create a transitional strategy to accommodate personal changes and build personal values

5.1 identify short-term and long-term goals
5.2 identify steps to achieve goals

COURSE REC3040: TRAINING & CONDITIONING

Level: Advanced

Prerequisites: HCS1080: Cardiovascular System

Description: Students gain an understanding of training principles and how they affect workout design. Students also gain fundamental skills for assessing exercise intensity and learn training principles to increase and decrease workout designs for apparently healthy individuals.

Parameters: Access to a fitness facility and to instruction from an individual who has met the training requirements of Fitness Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses:
HCS1070: Respiratory System
HSS1020: Nutrition & Wellness
REC2010: Nutrition for Recreation Activities & Sport
REC3010: Human Movement

Outcomes: The student will:

1. **explain energy systems as they are used by the body during physical activity**
   - 1.1 identify the body's sources of food for energy production
   - 1.2 describe the role of digestion, absorption and metabolism in the utilization of nutrients found in food
   - 1.3 describe the body's energy requirements during activity
   - 1.4 describe the energy continuum during physical activity
   - 1.5 relate energy release systems in the body to the nature of physical activity and to nutrient availability, considering:
     - 1.5.1 the function of adenosine triphosphate (ATP)
     - 1.5.2 the availability and use of glucose and glycogen
     - 1.5.3 aerobic versus anaerobic energy systems (immediate, short-term and long-term energy pathways)
     - 1.5.4 intensity and duration of physical activity, including symptoms of high lactic acid levels in the body
     - 1.5.5 carbohydrate content in the diet
     - 1.5.6 impact of training on energy utilization, including steady state exercise
2. **apply the concept of levers to movement**
   - 2.1 define relevant terms, including:
     - 2.1.1 lever
     - 2.1.2 fulcrum
     - 2.1.3 resistance force
     - 2.1.4 angle of pull
   - 2.2 describe three classes of levers

2.3 categorize several movements into three classes of levers
2.4 explain how inertia affects movement
2.5 demonstrate how resistance force, length of lever and the angle of pull can alter forces on a muscle
2.6 demonstrate methods to increase stability during movement considering centre of mass and base of support

3. justify safe physical activity practices for apparently healthy individuals

3.1 explain the four components of exercise analysis using the SEAT (safety, effectiveness, applicability and time efficiency) model
3.2 describe potential risks to joint structures with various exercise movements
3.3 demonstrate preventative measures for exercise participants to decrease injuries specific to:
- 3.3.1 warm-up
- 3.3.2 cool-down
- 3.3.3 body alignment
- 3.3.4 rate of progression
- 3.3.5 dynamic movement, including ballistic movement
- 3.3.6 intensity
- 3.3.7 high impact activity
- 3.3.8 cross-training
- 3.3.9 flexibility

3.4 explain the concept of overtraining, including musculoskeletal and systemic indicators

4. demonstrate techniques to monitor exercise intensity

4.1 explain the concept of ratings of perceived exertion
4.2 identify signs of the acute effects of exercise
4.3 monitor exercise intensity using the dyspnea scale
4.4 monitor heart rate as a measure of exercise intensity using the “talk test”
4.5 monitor the respiratory response to exercise
4.6 describe how the respiratory system responds to exercise and describe guidelines for breathing during muscular conditioning exercise
4.7 explain the performance parameters of the heart by:
- 4.7.1 defining cardiac output
- 4.7.2 interpreting how exercise can increase cardiac output
- 4.7.3 interpreting the impact of exercise on stroke volume

4.8 monitor heart rate during exercise, being sure to:
- 4.8.1 explain why heart rate is useful for monitoring intensity of exercise and physiological stress
- 4.8.2 explain the term target heart rate
- 4.8.3 demonstrate when and how to measure pulse rates, including carotid and radial pulse rates
- 4.8.4 calculate target heart rate using the Karvonen method
- 4.8.5 calculate target heart rate using the Canadian Physical Activity Fitness and Lifestyle Approach (CPAFLA)

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. create a transitional strategy to accommodate personal changes and build personal values

6.1 identify short-term and long-term goals
6.2 identify steps to achieve goals

COURSE REC3045: PERIODIZATION

Level: Advanced

Prerequisite: REC2040: Foundations for Training 2

Description: Students apply the concepts of periodization to training programs for resistance and aerobic training.

Parameters: Access to a fitness facility and to instruction from an individual who is highly knowledgeable in this area and/or trained in kinesiology, physical education and/or human movement.

Supporting Courses: REC3040: Training & Conditioning

Outcomes: The student will:

1. apply the concepts of periodization to training programs
- 1.1 discuss why periodization is important for:
  - 1.1.1 peak athletic performance
  - 1.1.2 injury reduction
  - 1.1.3 non-athletic populations
- 1.2 describe the importance of a needs assessment, including:
  - 1.2.1 initial consultation for previous training and health status
  - 1.2.2 results of fitness testing, including:
    - 1.2.2.1 baseline testing
    - 1.2.2.2 post-training testing
  - 1.2.3 interpreting the results of fitness testing
  - 1.2.4 goal setting
- 1.3 describe acute-training variables, including:
  - 1.3.1 exercise
  - 1.3.2 order of exercise
  - 1.3.3 repetitions
  - 1.3.4 sets
  - 1.3.5 tempo
  - 1.3.6 rest
  - 1.3.7 load (e.g., intensity)
- 1.4 describe how manipulation of acute-training variables produce specific training outcomes, including:
  - 1.4.1 muscular endurance
  - 1.4.2 hypertrophy
  - 1.4.3 strength
  - 1.4.4 power

2. analyze the phases in program design
- 2.1 summarize the preparatory period of a periodization model in program design, including the:
  - 2.1.1 hypertrophy or endurance phase
  - 2.1.2 basic strength phase
  - 2.1.3 power or strength phase

2.2 summarize the general adaptation syndrome (GAS) responses to training stress in program design, including the:
    2.2.1 shock or alarm phase
    2.2.2 resistance phase, including supercompensation
    2.2.3 exhaustion phase

3. analyze the periods of an annual training program (ATP) periodization model

3.1 summarize the first transition period (taper/ramping) of an ATP periodization model
3.2 summarize the competition period of an ATP periodization model
3.3 summarize the second transition period (active rest) of an ATP periodization model
3.4 summarize the specific time periods of an ATP periodization model, including the:
    3.4.1 macrocycle
    3.4.2 mesocycle
    3.4.3 microcycle
    3.4.4 individual training sessions
3.5 summarize how the four sport seasons relate to the four periods of an ATP periodization model, including the:
    3.5.1 off-season period
    3.5.2 pre-season period
    3.5.3 in-season period
    3.5.4 post-season period

4. create and refine a periodization training program that incorporates resistance training

4.1 conduct a needs analysis, including:
    4.1.1 energy systems and fitness components of the sport or activity
    4.1.2 movements that occur within the sport or activity
    4.1.3 assessment of the athlete or individual
    4.1.4 training and performance goals of the individual for strength, power, muscular endurance and hypertrophy
4.2 select exercises for a particular sport or activity based on needs analysis, considering:
    4.2.1 single- and multi-joint exercises
    4.2.2 power, strength and core exercises
    4.2.3 machine and free-weight exercises
4.3 recommend the training frequency, considering the following:
    4.3.1 training status; e.g., beginner, intermediate, advanced
    4.3.2 sport season; e.g., in-season, off-season, pre-season, post-season
    4.3.3 training load
    4.3.4 exercise type
4.4 recommend the various methods of exercise order, including:
    4.4.1 power, core and assisted exercises
    4.4.2 upper- and lower-body exercises
    4.4.3 push and pull exercises
    4.4.4 supersets and compound supersets
4.5 select the various training loads, volume and rest periods for various exercises
4.6 describe the relationship between volume and intensity
4.7 refine the program based on a variety of feedback mechanisms

5. create and refine a periodization training program that incorporates aerobic training

5.1 conduct a needs analysis, including:
    5.1.1 energy systems and fitness components of the sport or activity
    5.1.2 movements that occur within the sport or activity
    5.1.3 assessment of the athlete or individual
    5.1.4 training and performance goals for increased VO_2 max, increased anaerobic threshold and/or improved cardiovascular endurance

5.2 select exercises for a particular sport or activity based on needs analysis, considering various:
    5.2.1 exercise modes
    5.2.2 training frequencies
    5.2.3 training intensities
    5.2.4 training volumes and rest
5.3 recommend the exercise progression for increasing:
    5.3.1 frequency
    5.3.2 intensity
    5.3.3 duration
    5.3.4 rest period
5.4 refine the program based on a variety of feedback mechanisms

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. create a transitional strategy to accommodate personal changes and build personal values

7.1 identify short-term and long-term goals
7.2 identify steps to achieve goals

COURSE REC3050: SPORT PSYCHOLOGY 3

Level: Advanced

Prerequisite: REC2050: Sport Psychology 2

Description: Students recommend and design strategies for helping athletes achieve optimal performance levels. Societal attitudes towards sport are examined. Students demonstrate and plan techniques for energy management, focus and activation, self-talk and visualization.

Supporting Courses: CCS2040: Integrative Health
HCS2120: Pain & Pain Management
HSS2050: Becoming a Mentor
REC3040: Training & Conditioning

Outcomes: The student will:

1. **evaluate current trends and attitudes in sport**
   - 1.1 analyze the role of the athlete in the world of sport
   - 1.2 assess the roles of various significant individuals who have an impact on an athlete's journey
   - 1.3 evaluate the impact of current societal attitudes about sport on developing athletes
   - 1.4 evaluate the perceptions of rivalries and their impact on developing athletes
   - 1.5 assess how positive and negative rivalries impact a team environment
   - 1.6 create a team philosophy that identifies, promotes and develops a healthy team
   - 1.7 lead a team-building activity by:
     - 1.7.1 discussing the activity in relation to previously learned concepts
     - 1.7.2 assessing the roles of peers
     - 1.7.3 providing feedback to peers
     - 1.7.4 evaluating the team's dynamics
2. **design a plan for optimal activation and energy management**
   - 2.1 interpret the relationship between stress and perception
   - 2.2 plan a strategy for using relaxation skills to enhance:
     - 2.2.1 training sessions
     - 2.2.2 competition
     - 2.2.3 life outside of sport
   - 2.3 plan a strategy involving relaxation skills to be applied during training
   - 2.4 plan strategies to increase activation levels for:
     - 2.4.1 training sessions
     - 2.4.2 competition
     - 2.4.3 ideal performance state
3. **demonstrate strategies to enhance positive self-talk**
   - 3.1 recommend practical applications of positive self-talk
   - 3.2 create a plan for a peer to change his or her self-talk habits, including:
     - 3.2.1 strategies for increasing awareness about the impact of negative and positive self-talk on sport performance and life
     - 3.2.2 strategies for changing thoughts from negative to positive or productive
   - 3.3 discuss a peer's efforts in applying the recommended strategies
   - 3.4 re-evaluate and revise the plan for enhancing positive self-talk

4. demonstrate strategies for effective visualization related to performance

- 4.1 evaluate how successful individuals have incorporated visualization into their lives
- 4.2 create a strategy for increasing time for visualization in training
- 4.3 recommend strategies for using imagery for:
  - 4.3.1 injury prevention
  - 4.3.2 rehabilitation
  - 4.3.3 other areas where visualization might improve performance and training
  - 4.3.4 other areas where visualization might improve quality of life outside of sport
- 4.4 design a series of effective visualizations using all of the senses to assist:
  - 4.4.1 in injury prevention
  - 4.4.2 rehabilitation
  - 4.4.3 other areas where visualization might improve performance and training
  - 4.4.4 other areas where visualization might improve quality of life outside of sport
- 4.5 demonstrate visualization skills
- 4.6 assess visualization exercises for impact on performance by collecting feedback from athletes
- 4.7 revise creative imagery based on feedback from athletes
- 4.8 justify the impact of visualization on sport performance

5. demonstrate mental fitness and self-management strategies for achieving optimal performance

- 5.1 differentiate between optimal performance states for competition and training
- 5.2 interpret the meaning of integrity in the world of sport
- 5.3 design strategies to assist in maintaining perspective and staying true to personal values
- 5.4 create a performance plan for:
  - 5.4.1 pre-competition
  - 5.4.2 focus
  - 5.4.3 distraction control
- 5.5 evaluate the effectiveness of performance plans, including plans for:
  - 5.5.1 pre-competition
  - 5.5.2 focus
  - 5.5.3 distraction control
- 5.6 evaluate how emotional responses to situations change with increased pressure and performance demands
- 5.7 recommend strategies for coping with emotions based on interpretation of the emotional state of an athlete
- 5.8 explain an ideal emotional state for performance
- 5.9 interpret patterns regarding overtraining, under-recovery and burnout
- 5.10 evaluate current stress and recovery patterns using recognized assessment tools such as the Recovery Stress Questionnaire (RESTQ)
- 5.11 recommend strategies for an athlete to communicate rest and recovery needs to coaches and other parties involved in his or her sport development
- 5.12 recommend strategies and skills for the prevention of overtraining, under-recovery and burnout
- 5.13 recommend resources to support healthy rest and recovery and sport-life balance
- 5.14 evaluate the synergistic impact of physical, psychological, social and emotional fatigue on life and sport performance
- 5.15 create a plan for effective distraction control
- 5.16 design successful focus techniques for training and competition

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. create a transitional strategy to accommodate personal changes and build personal values

- 7.1 identify short-term and long-term goals
- 7.2 identify steps to achieve goals

COURSE REC3060: EVER ACTIVE KIDS LEADERSHIP

Level: Advanced

Prerequisites: HCS2020: First Aid/CPR with AED
REC2060: Leadership in Recreation & Sport

Description: Students learn principles of Ever Active leadership with children and youth in recreation settings in the community. Ever Active Kids leaders endeavour to develop proficient and expressive movers who have a comfort and joy in using their bodies for both goal-directed and aesthetic purposes. Students learn the importance of evidence-based practices related to Fundamental Movement Skills from the Canadian Sport for Life Model; physical literacy, child and youth development, exercise, activity adoption and motivation theories; and physical activity patterns of children and youth.

Parameters: Access to recreation programs for youth in the school or community and to instruction from an individual who has met the training requirements of Fitness Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HSS1030: Communication Skills for Health Professionals
HSS2020: Nurturing Children

Outcomes: The student will:

1. **evaluate the roles, responsibilities and practice of an Ever Active Kids leader**
   - 1.1 outline the qualities of an effective Ever Active Kids leader, including considerations for reflective practice
   - 1.2 justify a holistic view of children and youth in recreation settings by:
     - 1.2.1 evaluating past personal experiences in relation to a holistic model
     - 1.2.2 describing the importance of using a holistic model to guide practice
   - 1.3 apply the Ever Active Kids model by:
     - 1.3.1 justifying how individual differences will influence a child's perception of and affective response to a recreation activity
     - 1.3.2 developing scenarios that illustrate the application of the model based on individual differences
     - 1.3.3 justifying how a child's perception influences a leader's planning and implementation of a program
     - 1.3.4 differentiating between adult programs that focus on fitness (FITT or frequency, intensity, time, type) and children's programs that focus on developing a physically active lifestyle (FICC or fun, intrinsic motivation, competence, confidence)
   - 1.4 describe key elements of theories of motivation, including:
     - 1.4.1 the need for autonomy
     - 1.4.2 the need for challenge
     - 1.4.3 the opportunity to demonstrate competence

1.4.4 the opportunity to attain social acceptance
1.4.5 the need for fun and enjoyment

1.5 explain components of a mastery motivational climate using examples, including a description of the strategies noted in the acronym TARGET:
1.5.1 Task
1.5.2 Authority
1.5.3 Recognition
1.5.4 Grouping
1.5.5 Evaluation
1.5.6 Time

1.6 compare the theory regarding mastery motivational climate to cognitive evaluation theory and competence motivation theory

1.7 describe the Ever Active Kids program's strategies for maximizing motivation of children and youth during physical activity

1.8 evaluate leadership principles for physical activity based on research of effective teaching practices for physical education in schools, being sure to:
1.8.1 list several recommendations for leading physical activities
1.8.2 recommend practices that help children develop self-esteem
1.8.3 list examples of practices for leaders to avoid that decrease self-esteem
1.8.4 list practices specific to children aged 5 to 12 and adolescents that improve self-esteem
1.8.5 list practices that help reduce gender bias

1.9 analyze research related to coaching effectiveness and self-esteem of children participating in sport, including:
1.9.1 comparing a professional sports model to a developmental model
1.9.2 comparing coaching to win and coaching that reinforces encouragement and developmental play
1.9.3 developing strategies for a supportive, cohesive team
1.9.4 involving athletes in team decisions and rules for conduct on the team
1.9.5 implementing strategies to improve coaching effectiveness over time

1.10 define three approaches to behaviour management

1.11 list strategies to manage behaviour positively

1.12 list considerations for handling misbehaviour effectively

2. evaluate stages of development in childhood and adolescence as they apply to recreation planning as an Ever Active leader using the Ever Active Kids developmental model of "Head, Heart and Hands"

2.1 summarize evidence-based considerations for physical, motor skill and fitness development for Ever Active leaders

2.2 summarize evidence-based considerations for cognitive and perceptual development for Ever Active leaders

2.3 summarize evidence-based considerations for affective and moral development for Ever Active leaders by describing considerations for asking a child to publicly demonstrate a skill

2.4 summarize evidence-based considerations for the trainability of children versus adults, including considerations for muscular strength and anaerobic capacity by describing Dreger's guidelines for strength training for youth aged 7 to 16 years

2.5 describe personal experiences with physical activity in relation to a conceptual approach to movement

2.6 summarize teaching and learning principles of Ever Active leadership when teaching basic movement skills

3. lead several activities for children and youth based on the principles of Ever Active Kids leadership

- 3.1 assess, after active participation, several recreation activities using developmentally appropriate activity practices (DAAP) principles, including the following:
  - 3.1.1 focuses on skill development
  - 3.1.2 provides lots of practice
  - 3.1.3 focuses on the quality of movement
  - 3.1.4 accommodates all skill levels so that there is success for all
  - 3.1.5 uses appropriate goal structure, including individual, cooperative and competitive
  - 3.1.6 is safe emotionally and physically
- 3.2 suggest modifications to activities based on assessment using DAPP
- 3.3 demonstrate skills for teaching basic (informing) tasks
- 3.4 demonstrate skills for teaching refining tasks
- 3.5 demonstrate skills for teaching simplifying and extending tasks
- 3.6 demonstrate skills for teaching engaging tasks
- 3.7 compose variations of traditional games like dodge ball that demonstrate Ever Active principles
- 3.8 demonstrate, using a variety of examples, how Ever Active leaders incorporate movement concepts during instruction, including:
  - 3.8.1 body concepts
  - 3.8.2 spatial concepts
  - 3.8.3 effort concepts
  - 3.8.4 relationship concepts
- 3.9 describe characteristics, values and examples of several types of activities
- 3.10 assess effective instructional practices of an Ever Active Kids leader, including:
  - 3.10.1 planning to minimize managerial and organizational tasks
  - 3.10.2 establishing routines and a stop and listen signal
  - 3.10.3 managing equipment
  - 3.10.4 managing transitions in lessons
  - 3.10.5 using pictures or cards at stations
  - 3.10.6 providing safety instruction
  - 3.10.7 grouping and arranging participants effectively
- 3.11 lead basic rhythmic movement activities so that participants experience beat and rhythm motifs
- 3.12 lead activities exploring movement to music that provide for opportunities to create, perform and observe
- 3.13 lead creative dance activities to export body concepts
- 3.14 lead educational gymnastics activities for the following movement patterns, including activities that build sequences:
  - 3.14.1 landings
  - 3.14.2 locomotions
  - 3.14.3 statics
  - 3.14.4 rotations
  - 3.14.5 swings
  - 3.14.6 springs
- 3.15 assess educational gymnastics activities for choreography using a rubric
- 3.16 lead several games activities, including:
  - 3.16.1 body management games
  - 3.16.2 object management games for sending, receiving and retaining skills
  - 3.16.3 cooperative games
  - 3.16.4 competitive games, including quality games and playground games

4. **design an Ever Active Kids program**
   - 4.1 write goals for a program considering the:
     - 4.1.1 needs of the administrators of the program
     - 4.1.2 needs of parents or guardians of participants
     - 4.1.3 needs and characteristics of the participants
     - 4.1.4 availability of facilities and equipment
     - 4.1.5 personal strengths and limitations he or she has as an Ever Active Kids Leader
     - 4.1.6 goals for knowing, valuing or feeling, and doing
   - 4.2 justify the "design down; deliver up" model (Ever Active Kids Leadership), including strategies for adjusting lesson plans based on the progress of participants
   - 4.3 justify the inclusion of dance activities in a movement program, including the forms of dance
   - 4.4 differentiate between formal gymnastics and educational gymnastics
   - 4.5 explain the hierarchy of competitive games instruction, including an explanation of the importance of teaching games for understanding
   - 4.6 assess physical fitness activities based on characteristics that promote long-term fitness with kids, including:
     - 4.6.1 fun
     - 4.6.2 socialization
     - 4.6.3 variety and choice
     - 4.6.4 connection of the activity with the value of fitness for the individual child
     - 4.6.5 breaks in intensity
     - 4.6.6 creative use of technology
   - 4.7 write a sample note to parents introducing an Ever Active Kids program
   - 4.8 interview a program administrator about managing a quality program, including considerations for:
     - 4.8.1 group size
     - 4.8.2 number, length and timing of sessions
     - 4.8.3 facilities and equipment
     - 4.8.4 cultural and community context
     - 4.8.5 methods of assessing program quality
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. **create a transitional strategy to accommodate personal changes and build personal values**
   - 6.1 identify short-term and long-term goals
   - 6.2 identify steps to achieve goals

COURSE REC3070: FITNESS INSTRUCTION LEADERSHIP PRINCIPLES

Level: Advanced

Prerequisites: HSS1020: Nutrition & Wellness
REC3040: Training & Conditioning

Description: Students learn the components of fitness and apply them to the design of various fitness and exercise classes for apparently healthy individuals. Students will develop their own leadership styles and practice effective communication techniques for leadership in a group exercise setting.

Parameters: Access to a fitness facility and to instruction from an individual who has met the training requirements of Fitness Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Course: HSS1030: Communication Skills for Health Professionals

Outcomes: The student will:

1. **evaluate fitness instruction leadership principles specific to the Alberta Fitness Leadership Certification Association (AFLCA)**
   - 1.1 identify basic principles of fitness leadership
   - 1.2 list seven philosophies of fitness leadership
   - 1.3 describe the roles and responsibilities of a fitness leader
   - 1.4 state the importance of maintaining emergency and standard first aid/CPR certification
   - 1.5 summarize personal qualities and skills that research indicates help people meet the demands of a leadership role in a recreation setting
   - 1.6 summarize leadership strategies useful in the role of health educator
   - 1.7 summarize leadership strategies useful for the promotion of wellness
   - 1.8 identify leadership styles associated with situational leadership
   - 1.9 justify leadership styles in various situations, being sure to:
     - 1.9.1 prepare a list of tips for fitness leaders to consider when choosing a leadership style
     - 1.9.2 apply the instructional leadership styles to situations in fitness leadership
   - 1.10 analyze his or her own leadership skills and personal leadership style
2. **demonstrate communication skills related to fitness leadership**
   - 2.1 demonstrate elements of effective communication
   - 2.2 summarize the characteristics of children, teens and adults as clients in a fitness or activity setting
   - 2.3 demonstrate verbal and nonverbal skills
   - 2.4 explain the impact of nonverbal components of communication on the delivery of a group exercise program
   - 2.5 demonstrate methods for creating and maintaining interest when communicating as a fitness leader
   - 2.6 distinguish between effective and efficient communication with client participants
   - 2.7 demonstrate techniques for maintaining effective communication in a fitness exercise setting
   - 2.8 access the communication skills of effective fitness leaders

2.9 demonstrate effective questioning skills using different types of questions
2.10 demonstrate how and when to use questioning skills as a fitness class leader
2.11 demonstrate how and when to give and request feedback as a fitness class leader

3. demonstrate effective strategies for helping clients change to achieve and maintain a healthier lifestyle for apparently healthy individuals

3.1 explain current Canadian perspectives and statistics related to health behaviours, such as physical activity and exercise motivation, including reasons for a lack of participation in physical fitness activities and programs
3.2 define the term self-efficacy
3.3 analyze factors that contribute to the exercise identity of clients, including:
- 3.3.1 fitness belief
- 3.3.2 exercise motive image
- 3.3.3 athletic image
- 3.3.4 fitness goals
- 3.3.5 gender image

3.4 assess personal fitness identity
3.5 describe the profile of an adult learner
3.6 summarize the principles of a participant-centered approach to learning
3.7 summarize the types and effective uses of needs assessments
3.8 justify the reasons for goal-setting as an effective tool for promoting change to healthier lifestyle choices
3.9 describe the stages of behaviour change based on the Stages of Change model (Prochaska and DiClemente), including:
- 3.9.1 pre-contemplation
- 3.9.2 contemplation
- 3.9.3 preparation
- 3.9.4 action
- 3.9.5 maintenance
- 3.9.6 termination

3.10 describe the processes associated with movement between stages
3.11 recommend strategies for promoting change with clients at each stage of the change model to help them create a healthier lifestyle
3.12 recommend strategies for motivating and empowering class participants and clients

4. analyze the components of fitness

4.1 define components of fitness, including:
- 4.1.1 cardiovascular endurance
- 4.1.2 muscular strength
- 4.1.3 muscular endurance
- 4.1.4 flexibility

4.2 define fitness-related terms, including:
- 4.2.1 aerobic oxygen consumption
- 4.2.2 maximum oxygen consumption
- 4.2.3 body composition
- 4.2.4 maximum aerobic power
- 4.2.5 maximum aerobic capacity
- 4.2.6 FITT principle (frequency, intensity, time, type)

4.3 differentiate between physical health and physical fitness
4.4 differentiate between performance-related fitness and health-related fitness

4.5 describe ways single bouts of exercise can reduce stress, including:
    4.5.1 providing a distraction
    4.5.2 providing a perception of personal control
    4.5.3 reducing anxiety and depression
    4.5.4 providing opportunities for social interaction
    4.5.5 causing physiological changes, including the release of endorphins
4.6 describe risk factors for health that cannot be modified
4.7 describe lifestyle choices that can be modified to reduce the risk of health problems
4.8 explain the benefits of balanced muscle strength
4.9 explain how muscular endurance impacts posture
4.10 identify means of promoting weight loss

5. demonstrate principles of stretching

5.1 differentiate between stretching and flexibility
5.2 describe the stretch and myotatic reflex of the muscle
5.3 list the benefits of flexibility for active living and physical activity
5.4 list factors that limit flexibility
5.5 demonstrate passive and active stretching
5.6 demonstrate static flexibility, ballistic stretching and proprioceptive neuromuscular facilitation (PNF) stretching

6. demonstrate techniques for health screening and health education

6.1 explain fitness concepts related to blood pressure by:
    6.1.1 identifying normal ranges for systolic and diastolic blood pressure
    6.1.2 describing hypertension
    6.1.3 explaining how blood pressure responds to exercise
6.2 explain the importance of screening for health status
6.3 describe the purpose of health screening prior to adopting physical activity
6.4 demonstrate when and how to use the Physical Activity Readiness Questionnaire (PAR-Q) available from the Public Health Agency of Canada, and state when the Physical Activity Readiness Medical Examination (PAR-Med-X) is used
6.5 demonstrate how to manage non-compliance with PAR-Q requirements
6.6 explain the physical activity guide to various individuals interested in increasing their physical activity levels

7. design a fitness program for apparently healthy individuals

7.1 explain physical training principles, including:
    7.1.1 goal of adaptability
    7.1.2 cost of physical activity
    7.1.3 specificity
    7.1.4 progressive overload
    7.1.5 training threshold
    7.1.6 ceiling effect
    7.1.7 rest and recovery
    7.1.8 reversibility
7.2 plan and lead a fitness class or workout session, including all of the following components:
    7.2.1 justifying a choice of exercises based on FITT principles
    7.2.2 describing the interrelationship among intensity, duration and frequency
    7.2.3 monitoring the level of intensity of the exercise
    7.2.4 explaining the physiological responses to each component of the class or workout session
7.3 evaluate the effectiveness of the class or workout session

7.4 plan a program using the AFLCA process-driven approach and standards for program planning, including plans for:
    7.4.1 ensuring a positive climate
    7.4.2 assessing the needs and interests of participants
    7.4.3 determining goals and objectives for the activities and program
    7.4.4 designing and delivering activities
    7.4.5 evaluating activities and progress of participants

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. create a transitional strategy to accommodate personal changes and build personal values

9.1 identify short-term and long-term goals

9.2 identify steps to achieve goals

COURSE REC3080: RESISTANCE TRAINING LEADERSHIP

Level: Advanced

Prerequisite: REC3010: Human Movement
REC3040: Training & Conditioning
REC3070: Fitness Instruction Leadership Principles

Description: Students apply knowledge of the musculoskeletal system, basic biomechanics, basic training and conditioning principles and fitness leadership principles to a resistance training context. Students learn principles and skills to develop and lead a resistance training workout program for apparently healthy individuals.

Parameters: Access to a fitness facility with resistance training equipment and to instruction from an individual who has met the training requirements of Fitness Alberta.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HSS1020: Nutrition & Wellness
REC2010: Nutrition for Recreation Activities & Sport
REC3070: Fitness Instruction Leadership Principles

Outcomes: The student will:

1. evaluate basic principles of resistance training

- 1.1 define common terms related to resistance training, including:
  - 1.1.1 compound exercises
  - 1.1.2 reps
  - 1.1.3 sets
  - 1.1.4 loads
  - 1.1.5 muscular endurance
  - 1.1.6 muscular strength
  - 1.1.7 muscular hypertrophy
  - 1.1.8 muscle activation
  - 1.1.9 correct mechanics
  - 1.1.10 isolated exercises
  - 1.1.11 motor unit
- 1.2 list myths related to resistance training, including those related to the adaptability of women
- 1.3 describe health benefits and risks associated with resistance training by:
  - 1.3.1 listing five important reasons to participate in resistance training
  - 1.3.2 describing the response and adaptability of older adults to resistance training
  - 1.3.3 describing growth and development benefits and risks
- 1.4 demonstrate the principles of training in relation to resistance training exercises, including:
  - 1.4.1 progressive overload
  - 1.4.2 specificity
  - 1.4.3 recover and rest
  - 1.4.4 ceiling effect
- 1.5 categorize exercises as isolated or compound (multi-joint exercises)

1.6 justify the importance of intensity for optimizing resistance training results
1.7 teach general precautions to implement during resistance training, including:
    1.7.1 reasons to control speed of movement
    1.7.2 the importance of breathing
    1.7.3 proper lifting technique and safety

2. demonstrate proficiency with resistance training equipment

2.1 describe various types of equipment that can be used for resistance training
2.2 construct a graph comparing the advantages and disadvantages of the use of free weights and resistance training machines based on:
    2.2.1 capital costs
    2.2.2 maintenance
    2.2.3 flexibility of use
    2.2.4 degree of muscle involvement
    2.2.5 ease of learning
    2.2.6 time efficiency
    2.2.7 safety
    2.2.8 space requirements

3. demonstrate types of resistance and force production

3.1 describe isometric, concentric and eccentric force production
3.2 describe the causes of muscle soreness and the impact of concentric and eccentric contractions
3.3 identify the impact of eccentric contractions and muscle soreness related to unfamiliar exercises and beginner exercise participants
3.4 describe the terms dynamic constant resistance (isotonic), dynamic variable resistance, dynamic progressive resistance and isokinetic resistance
3.5 state the principles underlying variable resistance machines
3.6 summarize the effectiveness and non-effectiveness of isokinetic resistance training compared to other forms of resistance training
3.7 identify the impact of muscle force-velocity relationships, muscle strength curves and on strength performance

4. apply the physiology of strength improvement to resistance training

4.1 describe the physiological changes that occur with strength training, including:
    4.1.1 muscle hypertrophy
    4.1.2 the changes that occur related to a motor unit as a result of weight training
4.2 describe the energy sources and systems associated with resistance training

5. demonstrate safe resistance training skills with exercises specific to the trunk

5.1 identify specific safety considerations for the spine during trunk exercises
5.2 describe four training suggestions for a healthy trunk
5.3 demonstrate neutral spinal posture, being sure to:
    5.3.1 describe the importance of neutral spinal posture
    5.3.2 demonstrate how sustained flexion and extension strain the supporting structures of the spine
5.4 demonstrate key techniques and precautions for trunk stability and mobility exercises (trunk flexion and extension)
5.5 demonstrate exercises for the following muscles, including key techniques and precautions:
    5.5.1 rectus femoris
    5.5.2 hamstring muscles (i.e., biceps femoris, semitendinosus, semimembranosus)
    5.5.3 iliopsoas
    5.5.4 transverse abdominis
    5.5.5 internal obliques
    5.5.6 external obliques

5.5.7 rectus abdominis
5.5.8 erector spinae

6. demonstrate safe resistance training skills with exercises specific to the upper body

6.1 identify specific safety considerations for the shoulder joint during upper body exercises
6.2 demonstrate exercises for the following muscles, including key techniques and precautions:
6.2.1 biceps
6.2.2 triceps
6.2.3 trapezius
6.2.4 rhomboids
6.2.5 serratus anterior
6.2.6 latissimus dorsi
6.2.7 teres major
6.2.8 pectoralis major
6.2.9 pectoralis minor
6.2.10 deltoids
6.2.11 rotator cuff, including supraspinatus, infraspinatus, teres minor and subscapularis muscles

7. demonstrate safe resistance training skills with exercises specific to the lower body

7.1 identify specific safety considerations for the knee joint during lower body exercises
7.2 demonstrate exercises for the following muscles, including key techniques and precautions:
7.2.1 quadriceps; i.e., rectus femoris, vastus medialis, vastus intermedius, vastus lateralis
7.2.2 hamstrings; i.e., biceps femoris, semitendinosus, semimembranosus
7.2.3 abductors, including gluteus minimus, gluteus medius
7.2.4 gluteus maximus
7.2.5 iliopsoas
7.2.6 gastrocnemius
7.2.7 soleus
7.2.8 tibialis anterior
7.2.9 adductors, including adductor magnus, longus and brevis, pectineus and gracilis sartorius

8. design a basic resistance training program

8.1 plan a program using required components
8.2 describe how to cross train within a resistance training program
8.3 demonstrate five ways to change variables for strength gains
8.4 demonstrate the 10-step any exercise drill
8.5 apply reps, sets and loads for muscular strength, endurance and hypertrophy to the exercises
8.6 apply the following variables effectively in the training program:
8.6.1 frequency of workouts
8.6.2 number of exercises, including a balance of opposing muscle groups
8.6.3 length of workout
8.6.4 order of exercises in the workout
8.6.5 rest time between sets and workouts
8.6.6 considerations for increasing the resistance or load for an exercise

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. create a transitional strategy to accommodate personal changes and build personal values

10.1 identify short-term and long-term goals

10.2 identify steps to achieve goals

COURSE REC3085: OLYMPIC WEIGHTLIFTING

Level: Advanced

Prerequisite: REC2040: Foundations for Training 2

Description: Students develop an understanding of the science of Olympic weightlifting. Students will be safely introduced to the basics of Olympic weightlifting. Proper execution and safety will be emphasized.

Parameters: Access to instruction from an individual that is certified in weightlifting through the National Coaching Certification Program (NCCP) is required.

Supporting Courses: REC2045: Training for Core Muscles
REC3040: Training & Conditioning
REC3080: Resistance Training Leadership

Outcomes: The student will:

1. **identify the difference between Olympic weightlifting and other methods of strength and resistance training**
   - 1.1 describe how Olympic weightlifting lifts provide training for:
     - 1.1.1 power development
     - 1.1.2 core strengthening
     - 1.1.3 full-body kinetic chain development
     - 1.1.4 posterior chain strengthening
   - 1.2 discuss how weightlifting movements are unique from other strength training methods, including:
     - 1.2.1 sets, reps and tempo
     - 1.2.2 movement mechanics; e.g., muscles involved, multi-joint movement, absorption of external force
     - 1.2.3 force/power production
     - 1.2.4 flexibility
     - 1.2.5 coordination
   - 1.3 describe general safety considerations required in order to train with Olympic weightlifting lifts
2. **demonstrate the basic techniques for variations of strength exercises**
   - 2.1 describe the importance of correct technique, considering:
     - 2.1.1 postural alignment
     - 2.1.2 centre of gravity
     - 2.1.3 pressure on the foot during lifts
     - 2.1.4 weight distribution
     - 2.1.5 sequencing
   - 2.2 describe various types of equipment that can be used in squat, press and deadlift strength exercises; e.g., broomsticks, barbells, kettlebells and dumbbells
   - 2.3 identify the primary muscle groups involved in the squat, press and deadlift strength exercises
   - 2.4 explain the use of squat, press and deadlift exercises in progression to Olympic weightlifting exercises

2.5 demonstrate proper safety considerations for the technique and equipment specific to each squat, press and deadlift exercise, including:
  2.5.1 proper spotting techniques and exit strategies from a lift
  2.5.2 the importance of establishing appropriate motor patterning
  2.5.3 appropriate progression for volume and intensity
2.6 differentiate between the various forms of deadlift exercises, including the:
  2.6.1 Romanian deadlift
  2.6.2 close-grip (clean grip)
  2.6.3 wide-grip (snatch grip)
2.7 differentiate between the various forms of squat exercises, including the:
  2.7.1 overhead squat
  2.7.2 front squat
  2.7.3 back squat
2.8 differentiate between the various forms of press exercises, including the:
  2.8.1 overhead press
  2.8.2 behind-the-neck press
  2.8.3 push press
2.9 identify the appropriate sequence, training loads, volume and rest periods required when performing the squat, press and deadlift strength exercises
2.10 discuss the effect of tempo on muscle recruitment and force production

3. demonstrate flexibility and range of motion to perform Olympic weightlifting exercises

3.1 perform stretches for joints, including the:
  3.1.1 shoulder joints
  3.1.2 hip joints
  3.1.3 knee joints
  3.1.4 ankle joints
3.2 understand the importance of flexibility for Olympic weightlifting

4. demonstrate the basic techniques for Olympic weightlifting exercises

4.1 demonstrate the importance of correct technique, considering:
  4.1.1 postural alignment
  4.1.2 centre of gravity
  4.1.3 pressure on the foot during lifts
  4.1.4 weight distribution
  4.1.5 sequencing
4.2 demonstrate proper safety considerations in relation to technique and equipment specific to each Olympic weightlifting exercise
4.3 identify the phases involved in each of the Olympic weightlifting exercises, including the:
  4.3.1 snatch
  4.3.2 clean
  4.3.3 jerk
4.4 using equipment such as broomsticks, barbells and kettlebells, compare and perform various forms of Olympic weightlifting exercises, such as the:
  4.4.1 snatch, including hang snatch, hang power snatch, snatch pull, snatch balance
  4.4.2 clean, including hang clean, hang power clean, clean pull
  4.4.3 jerk, including push jerk, split jerk

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. create a transitional strategy to accommodate personal changes and build personal values

6.1 identify short-term and long-term goals

6.2 identify steps to achieve goals

COURSE REC3090: AQUATIC FITNESS TRAINING LEADERSHIP

Level: Advanced

Prerequisite: REC3010: Human Movement
REC3070: Fitness Instruction Leadership Principles

Description: Students apply knowledge of the musculoskeletal system, basic biomechanics, basic training and conditioning principles and fitness leadership principles to an aquatic exercise training context. Students learn principles and skills to develop and lead a group aquatic exercise program for apparently healthy individuals.

Parameters: Access to an aquatic facility and instruction from an individual who has met the training requirements of an Aquatic Fitness Training Leader.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: CCS3030: Aging
HCS2130: Chronic Conditions
HSS1030: Communication Skills for Health Professionals
REC2010: Nutrition for Recreation Activities & Sport

Outcomes: The student will:

1. evaluate basic principles of aquatic exercise training for apparently healthy individuals
- 1.1 explain the benefits of aquatic exercise
- 1.2 describe reasons for the popularity of aquatic exercise
- 1.3 define the physical laws and properties of water, including:
  - 1.3.1 buoyancy
  - 1.3.2 hydrostatic pressure
  - 1.3.3 gravity
  - 1.3.4 speed
  - 1.3.5 power
  - 1.3.6 force
  - 1.3.7 inertia
  - 1.3.8 resistance
  - 1.3.9 leverage
  - 1.3.10 action and reaction
  - 1.3.11 thermoregulation
- 1.4 explain how the physical laws and properties of water affect aquatic exercise
- 1.5 describe the physiological responses of the body in the water during exercise
- 1.6 summarize research-based practice for aquatic exercise, including:
  - 1.6.1 cardiovascular training
  - 1.6.2 muscle conditioning
  - 1.6.3 muscle flexibility

2. demonstrate proficiency with aquatic exercises

2.1 explain the muscle function of the following muscle groups in relation to aquatic exercise:
- 2.1.1 quadriceps (rectus femoris, vastus medialis, vastus intermedius and vastus lateralis)
- 2.1.2 hamstrings (biceps femoris, semitendinosus, semimembranosus)
- 2.1.3 gluteus muscles (minimus, medius and maximus)
- 2.1.4 hip flexor muscles (gracilis, iliopsoas, sartorius, adductors and abductors)
- 2.1.5 biceps and triceps and muscles of the elbow
- 2.1.6 muscles of the upper back (trapezius, rhomboids, serratus anterior, latissimus dorsi)
- 2.1.7 muscles of the chest and shoulder (pectoralis major and minor, deltoids, rotator cuff)
- 2.1.8 muscles of the lower leg (gastrocnemius, soleus, tibialis anterior)
- 2.1.9 core muscles (transverse abdominals, internal obliques, external obliques, rectus abdominus, erector spinae)

2.2 demonstrate the movement of agonist or antagonist pairs of muscles in water

3. demonstrate effective use of music, movement combinations and cueing strategies when leading a group aquatic exercise class for apparently healthy individuals

3.1 define the basic elements of music relevant to group exercise, including:
- 3.1.1 beat
- 3.1.2 rhythm
- 3.1.3 measure
- 3.1.4 tempo
- 3.1.5 phrase
- 3.1.6 mood

3.2 identify safe microphone volumes

3.3 justify the use of music in a group aquatic exercise setting

3.4 select music appropriate for various classes and components, considering:
- 3.4.1 tempo
- 3.4.2 mood
- 3.4.3 decibel level and volume

3.5 design movement combinations for group aquatic exercise classes in:
- 3.5.1 deep water
- 3.5.2 shallow water

3.6 evaluate different choreography patterns and programs for deep and shallow water, considering:
- 3.6.1 choice of music
- 3.6.2 tempo
- 3.6.3 rhythm
- 3.6.4 space
- 3.6.5 class formation
- 3.6.6 directions
- 3.6.7 plane and lever variations and transitions

3.7 demonstrate choreography for group exercise routines in deep and shallow water using effective instructional techniques, including:
- 3.7.1 progression from simple to complex
- 3.7.2 chorus and verse
- 3.7.3 add-on
- 3.7.4 repeated sequence
- 3.7.5 freestyle
- 3.7.6 a variety of class formations

3.8 demonstrate effective cueing strategies for group exercise classes in deep and shallow water, being sure to:
- 3.8.1 summarize tips for verbal cueing, including key safety tips, tips of vocal clarity and tips for vocal conciseness
- 3.8.2 justify the importance of vocal projection and intonation
- 3.8.3 justify the importance of body language related to class energy, enthusiasm, body alignment and group rapport
- 3.8.4 differentiate between effective and ineffective visual and verbal cueing

4. demonstrate effective instructional strategies for aquatic group exercise in deep and shallow water for apparently healthy individuals

4.1 demonstrate safe techniques for aquatic exercise in deep and shallow water, including considerations for:
- 4.1.1 posture
- 4.1.2 equipment, including the benefits of proper equipment
- 4.1.3 specific exercise components
- 4.1.4 identification of improper technique
- 4.1.5 possible injuries related to improper technique

4.2 plan lessons for exercise classes for aquatic exercise in deep and shallow water, and plan for all components of a class, designing exercises that demonstrate effective principles of movement, biomechanics and leadership

4.3 modify plans based on observations and evaluations using established methods and training principles, considering:
- 4.3.1 fitness level of participants
- 4.3.2 skill of participants
- 4.3.3 needs of special populations
- 4.3.4 equipment modifications
- 4.3.5 monitoring intensity

4.4 select music for aquatic exercise classes in deep and shallow water, considering tempo, counts, volume, mood, applicability to designation and phrasing

4.5 lead an aquatic exercise class using effective leadership and teaching methods for deep and shallow water, including:
- 4.5.1 addressing common instructional challenges
- 4.5.2 demonstrating effective routines
- 4.5.3 giving and receiving feedback effectively
- 4.5.4 connecting with participants
- 4.5.5 demonstrating effective verbal and visual cueing skills
- 4.5.6 creating a motivational climate in the class

5. design an aquatic fitness program for apparently healthy individuals

5.1 describe buoyancy, resistive and assistive aquatic exercise equipment

5.2 apply components of class design to aquatic exercise

5.3 describe variations in exercising heart rates in water

5.4 describe factors that influence speed of movement

5.5 describe the different effects of speed of movement on intensity and buoyancy

5.6 differentiate between different intensity monitoring techniques

5.7 select appropriate water temperature for various types of aquatic exercise

5.8 describe the effect of types of training (program variables) on the aquatic exercise participant

5.9 justify the design of class exercises and routines based on physiological responses of the body to aquatic exercise

5.10 differentiate between deep, shallow and transitional depth water exercise

5.11 apply the SWEAT (surface area and speed, working positions, enlarge a movement, achieve muscle balance, travelling) tool to exercise design
5.12 apply the ABYSS (adjust buoyancy, breath, yield, scull, synergize safety) tool to exercise design
5.13 apply the FITT principle to explain the specificity of training
5.14 evaluate the program

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. create a transitional strategy to accommodate personal changes and build personal values

7.1 identify short-term and long-term goals
7.2 identify steps to achieve goals

COURSE REC3100: FITNESS LEADERSHIP FOR THE OLDER ADULT

Level: Advanced

Prerequisite: REC3010: Human Movement
REC3070: Fitness Instruction Leadership Principles

Description: Students apply knowledge of the musculoskeletal system, basic biomechanics, basic training and conditioning principles and fitness leadership principles to lead fitness classes for apparently healthy older adults.

Parameters: Access to a fitness facility or seniors' housing facility that offers programs for older adults or has a clientele base of older adults and to instruction from an individual that has met the training requirements of the Alberta Fitness Leadership Certification Association.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: CCS3030: Aging
HCS2130: Chronic Conditions
HSS1030: Communication Skills for Health Professionals
REC2010: Nutrition for Recreation Activities & Sport

Outcomes: The student will:

1. **evaluate basic principles of fitness training for the apparently healthy older adult**
   - 1.1 describe theories of aging
   - 1.2 define biological age
   - 1.3 identify biomarkers related to biological age
   - 1.4 analyze factors that affect the rate of aging based on evidence-based research by justifying how the inactivity accelerates the process of physiologic aging
   - 1.5 differentiate between chronological age and functional age by:
     - 1.5.1 listing common measures of functional age
     - 1.5.2 listing structural changes associated with aging
     - 1.5.3 describing functional consequences of structural changes related to aging
   - 1.6 explain the physiological benefits of fitness for the older adult, including:
     - 1.6.1 cardiovascular health
     - 1.6.2 pulmonary function
     - 1.6.3 blood lipids
     - 1.6.4 muscle strength and endurance
     - 1.6.5 flexibility
   - 1.7 explain the psychological benefits of fitness for the older adult, including short-term and long-term benefits
   - 1.8 explain the social benefits of fitness for the older adult
   - 1.9 describe three levels of the health-fitness gradient
   - 1.10 assess the effects of aging on learning and motivation
   - 1.11 summarize the theories of health-related behaviour changes

1.12 analyze considerations for exercise for older adults with the following medical conditions or chronic illness related to specific body systems:
    1.12.1 cardiovascular conditions
    1.12.2 respiratory conditions
    1.12.3 musculoskeletal conditions
    1.12.4 neurological conditions
    1.12.5 visual conditions
    1.12.6 auditory conditions
1.13 list possible adverse effects on exercise response that can occur from the use or misuse of medications commonly used by older adults
1.14 outline the characteristics of an effective fitness leader

2. demonstrate techniques for health screening and health education

2.1 state the four purposes of the prescreening process
2.2 justify defining the older adult according to functional age instead of chronological age, being sure to:
    2.2.1 define activities of daily living
    2.2.2 list examples of activities of daily living
2.3 apply procedures used in pre-exercise screening
2.4 demonstrate heart rate monitoring
2.5 demonstrate scales to rate:
    2.5.1 perceived exertion
    2.5.2 degree of difficulty
    2.5.3 pain
    2.5.4 breathlessness
2.6 justify the use of the talk test with older adults
2.7 demonstrate assessments used in the process of working with older adults in an exercise setting, including:
    2.7.1 pre-exercise interview
    2.7.2 physical assessment
    2.7.3 ongoing assessment
    2.7.4 post-exercise response

3. demonstrate effective use of music, movement combinations and cueing strategies when leading a group exercise class for apparently healthy older adults

3.1 justify the use of music in a group exercise setting for older adults
3.2 select music appropriate for various classes and components, considering:
    3.2.1 tempo
    3.2.2 mood
    3.2.3 decibel level and volume
3.3 design movement combinations for group exercise classes for older adults
3.4 demonstrate choreography for group exercise routines for older adults using effective instructional techniques
3.5 demonstrate effective cueing strategies for group exercise classes, being sure to:
    3.5.1 summarize tips for verbal cueing, including key safety tips, tips of vocal clarity and tips for vocal conciseness
    3.5.2 justify the importance of vocal projection and intonation
    3.5.3 justify the importance of body language related to class energy, enthusiasm, body alignment and group rapport
    3.5.4 differentiate between effective and ineffective visual and verbal cueing

4. demonstrate effective strategies for leading exercise classes for apparently healthy older adults

- 4.1 evaluate older adult exercise safety precautions and guidelines specific to each functional grouping
- 4.2 select exercises appropriate for specific individuals and groups of older adults
- 4.3 lead a fitness class for older adults, effectively addressing each of the following components:
  - 4.3.1 aerobic movement
  - 4.3.2 strength
  - 4.3.3 flexibility
- 4.4 analyze activities and movement patterns using the SEAT model (safety, effectiveness, applicability, time efficiency)
- 4.5 monitor exercise intensity for older adults
- 4.6 demonstrate effective warm-up and cool-down components in an exercise class
- 4.7 analyze communication and leadership skills related to older adults
- 4.8 modify activities based on feedback received during a fitness class, considering:
  - 4.8.1 individual differences
  - 4.8.2 cultural diversity
  - 4.8.3 learning styles and abilities
- 4.9 apply effective behaviour change strategies to motivate participants and increase compliance

5. design an exercise program for apparently healthy older adults

- 5.1 outline the characteristics of an effective class structure
- 5.2 describe general principles of exercise programming for older adults
- 5.3 plan for short-term and long-term psychological benefits for participants
- 5.4 design a program to effectively address the needs of each of the five functional ability levels by:
  - 5.4.1 describing the five levels of functional ability
  - 5.4.2 selecting activities for each of the five levels of functional ability
- 5.5 evaluate external factors that affect the development of a fitness program for older adults, including:
  - 5.5.1 facilities
  - 5.5.2 staffing
  - 5.5.3 budget
- 5.6 outline effective marketing strategies

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. create a transitional strategy to accommodate personal changes and build personal values

- 7.1 identify short-term and long-term goals
- 7.2 identify steps to achieve goals

COURSE REC3110: GROUP EXERCISE LEADERSHIP

Level: Advanced

Prerequisite: REC3010: Human Movement
REC3070: Fitness Instruction Leadership Principles

Description: Students apply knowledge of the musculoskeletal system, basic biomechanics, basic training and conditioning principles, and fitness leadership principles to leading group exercise classes with different emphases for apparently healthy individuals.

Parameters: Access to a fitness facility and to instruction from an individual who has met the training requirements of the Alberta Fitness Leadership Certification Association.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HSS1030: Communication Skills for Health Professionals
REC2010: Nutrition for Recreation Activities & Sport

Outcomes: The student will:

1. evaluate basic principles of group exercise leadership for apparently healthy individuals

1.1 evaluate trends in group exercise by:
- 1.1.1 explaining the history of group exercise, including evolution from dance-based movement to a wider variety of classes
- 1.1.2 listing questions to ask when evaluating trends in the fitness industry
- 1.1.3 evaluating accuracy and applicability of information in the media
- 1.1.4 analyzing trends in the fitness industry and their impact on group exercise

1.2 evaluate the scope of practice for a group exercise leader using case studies, being sure to:
- 1.2.1 summarize legal implications for the group exercise leader
- 1.2.2 identify how music licensing affects the use of music in group exercise classes
- 1.2.3 describe prescreening limitations and how they affect class design

1.3 evaluate professional qualities of a group exercise leader, considering:
- 1.3.1 language
- 1.3.2 manner
- 1.3.3 attitude
- 1.3.4 classroom management
- 1.3.5 giving feedback
- 1.3.6 receiving feedback

1.4 evaluate strategies for building relationships in a classroom setting, including:
- 1.4.1 observation
- 1.4.2 making connections
- 1.4.3 building relationships
- 1.4.4 modifying leadership style for different situations
- 1.4.5 modifying motivational style for different situations

2. demonstrate effective use of music, movement combinations and cueing strategies when leading a group exercise class for apparently healthy individuals

- 2.1 define the basic elements of music relevant to group exercise, including:
  - 2.1.1 beat
  - 2.1.2 rhythm
  - 2.1.3 measure
  - 2.1.4 tempo
  - 2.1.5 phrase
  - 2.1.6 mood
- 2.2 identify safe microphone volumes
- 2.3 justify the use of music in a group exercise setting
- 2.4 select music appropriate for various classes and components, considering:
  - 2.4.1 tempo
  - 2.4.2 mood
  - 2.4.3 decibel level and volume
- 2.5 design movement combinations for group exercise classes
- 2.6 design eight-count and 32-count movement patterns in response to music selections
- 2.7 evaluate different choreography patterns and programs, considering:
  - 2.7.1 choice of music
  - 2.7.2 tempo
  - 2.7.3 rhythm
  - 2.7.4 space
  - 2.7.5 class formation
  - 2.7.6 directions
  - 2.7.7 plane and lever variations and transitions
- 2.8 demonstrate choreography for group exercise routines using effective instructional techniques, including:
  - 2.8.1 progression from simple to complex
  - 2.8.2 chorus and verse
  - 2.8.3 add-on
  - 2.8.4 repeated sequence
  - 2.8.5 freestyle
  - 2.8.6 a variety of class formations
- 2.9 demonstrate effective cueing strategies for group exercise classes, being sure to:
  - 2.9.1 summarize tips for verbal cueing, including key safety tips, tips for vocal clarity and tips for vocal conciseness
  - 2.9.2 justify the importance of vocal projection and intonation
  - 2.9.3 justify the importance of body language related to class energy, enthusiasm, body alignment and group rapport
  - 2.9.4 differentiate between effective and ineffective visual and verbal cueing

3. demonstrate effective strategies for leading group exercise classes for apparently healthy individuals

- 3.1 outline general safety guidelines for all populations
- 3.2 identify the components of a group exercise class, including warm-up, cardiovascular fitness, cardiovascular cool down, muscle conditioning, flexibility and relaxation and explain the:
  - 3.2.1 purpose of each component
  - 3.2.2 benefits of each component
  - 3.2.3 guidelines for designing each component
- 3.3 describe methods of monitoring intensity

3.4 explain how the principles of conditioning and the FITT (frequency, intensity, time, type) formula affect the design of group exercise components
3.5 explain the physiological changes that occur with pregnancy that affect exercise during pregnancy
3.6 modify the design of group exercise components and exercises based on:
  3.6.1 accommodation for varying fitness levels and skills
  3.6.2 common exercise modifications for special populations
  3.6.3 modifications for older adults
  3.6.4 modifications for pregnant participants
3.7 justify exercise choices using the SEAT (safety, effectiveness, applicability, time efficiency) model
3.8 evaluate various exercises in various components, considering:
  3.8.1 purpose
  3.8.2 effectiveness
  3.8.3 applicability (functionality)
  3.8.4 individual movement and alignment errors within group settings
3.9 recommend methods to optimize the time effectiveness of a program
3.10 justify proper posture and core stabilization by:
  3.10.1 describing the major muscle groups involved in core stabilization
  3.10.2 summarizing the importance of proper posture
  3.10.3 summarizing the importance of neutral body alignment
3.11 demonstrate effective core stabilization exercises, being sure to:
  3.11.1 evaluate participants for proper alignment
  3.11.2 demonstrate effective feedback strategies to improve misalignments

4. demonstrate effective instructional strategies for one specific group exercise designation (choreography, step, portable equipment or cycle)

4.1 explain the history of a specific designation, including the evolution of practice and equipment
4.2 define terms related to a specific group exercise designation
4.3 justify the benefits of a specific group exercise designation
4.4 demonstrate safe techniques for a specific group exercise designation, including considerations for:
  4.4.1 posture
  4.4.2 equipment, including the benefits of proper equipment
  4.4.3 specific exercise components
  4.4.4 the identification of improper technique
  4.4.5 possible injuries related to improper technique
4.5 summarize research-based practice for a specific designation
4.6 plan lessons for all components of an exercise class, designing exercises that demonstrate effective principles of movement, biomechanics and leadership
4.7 modify plans based on observations and evaluations using established methods and training principles, considering:
  4.7.1 fitness level of participants
  4.7.2 skill of participants
  4.7.3 needs of special populations
  4.7.4 equipment modifications
  4.7.5 monitoring intensity
4.8 select music for a specific group exercise, considering tempo, counts, volume, mood, applicability to designation and phrasing

4.9 demonstrate effective instructional strategies specific to a designation when leading an exercise class, including:
- 4.9.1 describing common instructional challenges
- 4.9.2 demonstrating effective routines
- 4.9.3 giving and receiving feedback effectively
- 4.9.4 connecting with participants
- 4.9.5 demonstrating effective verbal and visual cueing skills specific to the designation
- 4.9.6 creating a motivational climate in the class

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. create a transitional strategy to accommodate personal changes and build personal values

6.1 identify short-term and long-term goals

6.2 identify steps to achieve goals

COURSE REC3120: COACHING 2

Level: Advanced

Prerequisite: REC2120: Coaching 1

Description: Students learn basic coaching skills common to all sports in the areas of designing a sport program and ethical considerations for coaching. Students develop an appreciation for the roles and responsibilities of coaches in community recreation programs.

Parameters: Access to sports teams in the school and/or community and to instruction from an individual with recognized training in coaching.

Note: This course is listed within a credentialed pathway. Please refer to the CTS Credentialed Pathways document on the Alberta Education website for more information.

Supporting Courses: HCS2020: First Aid/CPR with AED
HSS2020: Nurturing Children
REC1020: Injury Management 1
REC2010: Nutrition for Recreation Activities & Sport
REC2060: Leadership in Recreation & Sport

Outcomes: The student will:

1. explain key concepts related to designing a sport program

- 1.1 describe the main components of a program, including:
  - 1.1.1 time
  - 1.1.2 events
  - 1.1.3 intention, objectives and priorities
  - 1.1.4 structure, including the preparation, competition and transition periods
  - 1.1.5 progression adjustment and evaluation
- 1.2 describe three types of sport programs based on periodization
- 1.3 justify single-periodization for the competition-introduction level
- 1.4 state the position of the Coaching Association of Canada with regard to sport programs and the long-term development of young athletes
- 1.5 explain general recommendations for long-term athlete development when athletes are children or adolescents, participation is seasonal and there is a wide variation in the athletes' experience and level of performance
- 1.6 explain the concept of sport form by:
  - 1.6.1 outlining the objectives of building sport form
  - 1.6.2 describing the characteristics of the consolidating and stabilizing phases
  - 1.6.3 describing the declining stage
- 1.7 graph the improvement of athletic abilities and sport form over a period of years
- 1.8 interpret sample programs for several sport families
- 1.9 recommend solutions to common constraints and issues encountered in designing a program
- 1.10 describe objectives for sport programs

2. **analyze the concept of long-term development for athletes based on four stages for involvement in sport: Community, Competition-Introduction, Competition-Development and Competition-High Performance Sport**
   - 2.1 name the four general orientations for each category
   - 2.2 describe objectives for each category
   - 2.3 outline the type of periodization for each category
   - 2.4 state the length of the program for each category
   - 2.5 describe the ratio of practice (training) to competition in each category
   - 2.6 state the number of practices per week appropriate for each category
   - 2.7 describe the amount of skill specialization in each category
   - 2.8 explain training priorities for physical preparation in each category
   - 2.9 explain training priorities for motor preparation in each category
   - 2.10 explain training priorities for technical preparation in each category
   - 2.11 explain training priorities for tactical preparation in each category
   - 2.12 explain training priorities for mental preparation in each category
   - 2.13 list training methods appropriate for each category
   - 2.14 justify reasons for avoiding specialization before 10-years-old for most sports
   - 2.15 list early specialization sports that have their own athlete development model
3. **evaluate considerations for the selection of athletes**
   - 3.1 list scenarios where selection is necessary
   - 3.2 justify the need for a careful selection process to minimize negative implications of selection for individual athletes
   - 3.3 write selection criteria and procedures for a specific sport based on key considerations for the planning and implementation of a selection process and develop procedures for:
     - 3.3.1 communicating the process and criteria to athletes and the public before the selection occurs
     - 3.3.2 managing selection announcements
   - 3.4 demonstrate strategies for positive communication of the results of the selection to athletes and parents
4. **design a sport program for a specific sport**
   - 4.1 demonstrate the application of six key questions to consider when planning a sport program
   - 4.2 determine the general orientation and objectives of the program
   - 4.3 design the structure of the program
   - 4.4 determine the training priorities, objectives and methods of a given week of the program
   - 4.5 adjust the plan where necessary based on constraints with logistics and considerations for athletes' development
5. **justify a coach's response to ethical and moral situations that can arise in a coaching context based on a six-step decision-making process**
   - 5.1 summarize the NCCP Code of Ethics
   - 5.2 explain the concept of Fair Play and the Do No Harm Principle in the context of ethical decision-making
   - 5.3 describe a coach's role in recognizing and responding to discrimination, prejudice, stereotyping and harassment that may occur
   - 5.4 create a code of ethics for athletes and parents related to a specific coaching context
   - 5.5 explain the importance of establishing the facts when an ethical or moral situation presents itself
   - 5.6 differentiate between facts that have moral implications and facts that have legal implications
   - 5.7 describe a necessary response to legal implications in situations that may arise
   - 5.8 differentiate between internal influences and external influences that affect how a coach perceives a situation
   - 5.9 analyze options for decision or action in ethical and moral issues
   - 5.10 justify an action taken or decision made by a coach based on an ethical or moral issue

5.11 plan how a decision or action could be implemented for ethical and moral issues
5.12 recommend a ten-point personal risk management plan for personal liability related to coaching

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. create a transitional strategy to accommodate personal changes and build personal values

7.1 identify short-term and long-term goals
7.2 identify steps to achieve goals

COURSE REC3130: OFFICIATING

Level: Advanced

Prerequisite: None

Description: Students analyze the historical development of at least one specific sport, including an in-depth analysis of the rules of play. Students analyze the roles and responsibilities of officials in sport and demonstrate officiating skills for a specific sport in simulated scenarios and actual practices and games.

Note: This course may be combined with a practicum course to achieve a credential to officiate a specific sport if the requirements of the specific sport association are met.

Outcomes: The student will:

1. **analyze the historical development of at least one specific sport**
   - 1.1 describe the origin of the game
   - 1.2 describe changes in equipment used to play the game
   - 1.3 analyze the historical development of rules related to play from the origin of the game to current day rules by:
     - 1.3.1 identifying when changes have happened
     - 1.3.2 identifying what rules were changed
     - 1.3.3 describing factors influencing the changes to the rules
2. **analyze current rules for play for at least one sport**
   - 2.1 diagram the sport's field, court or area of play with any lines, equipment and measurements appropriate to the sport
   - 2.2 compare different playing surfaces for the sport, including indoor and outdoor spaces (if applicable)
   - 2.3 compare what rules are used at different levels of the sport, including (if applicable):
     - 2.3.1 international levels of play
     - 2.3.2 national levels of play
     - 2.3.3 provincial levels of play
     - 2.3.4 city levels of play
     - 2.3.5 community levels of play
     - 2.3.6 school levels of play
   - 2.4 describe the rules that athletes are expected to follow and apply related to a specific sport and level of play
   - 2.5 describe at least two rules that may be interpreted differently at different levels or in different organizations
   - 2.6 describe rules that are of a potential conflict for officials, athletes, coaches and others interested in the sport
   - 2.7 explain at least two rules that are often interpreted differently during play due to the discretion of officials
   - 2.8 demonstrate effective interpretation and application of these rules in a:
     - 2.8.1 practice
     - 2.8.2 game situation, including intramurals, class games and/or shadowing an official where possible

3. evaluate the roles and responsibilities of an official for a team and/or individual sport

- 3.1 write a personal code of ethics for officiating in a sport
- 3.2 explain different officiating roles at various levels of a sport
- 3.3 describe pre-game, event and/or competition responsibilities
- 3.4 describe the responsibilities of any officials in your sport during a game, event and/or competition
- 3.5 describe post-game, event and/or competition responsibilities
- 3.6 justify the importance of proper attire
- 3.7 justify the necessary level of fitness required for an official in a specific sport
- 3.8 explain the concept of fair play
- 3.9 apply the concept of fair play to at least two potential conflicts based on game/event and/or competition analysis by:
  - 3.9.1 explaining all possible points of view
  - 3.9.2 justifying a final decision
- 3.10 describe considerations for professional relationships and communication on and off the field with:
  - 3.10.1 coaches
  - 3.10.2 assistant referees in the field of play
  - 3.10.3 technical support officials such as scorekeepers
  - 3.10.4 other support staff and volunteers on site, such as athletic trainers and administrators
  - 3.10.5 parents
  - 3.10.6 spectators
  - 3.10.7 players
  - 3.10.8 individuals exhibiting unruly or disrespectful behaviour on and/or off the field
- 3.11 write reports based on case study scenarios, being sure to:
  - 3.11.1 list the facts of the scenario
  - 3.11.2 summarize options for resolving conflict
  - 3.11.3 compare the options, including their pros and cons
- 3.12 justify the role of an official in creating and maintaining a safe play environment and managing risks, including:
  - 3.12.1 locating the Emergency Action Plan (EAP)
  - 3.12.2 naming the personnel who fulfill the roles in the EAP at each site
  - 3.12.3 applying rules regarding entrance of team personnel after an injury
  - 3.12.4 summarizing actions for response towards blood-borne pathogens during a game
  - 3.12.5 recommending cessation of play due to risks of weather
  - 3.12.6 applying rules related to jewellery
  - 3.12.7 applying rules related to proper and safe use of equipment
- 3.13 summarize the characteristics of several different sport-specific officiating organizations, including:
  - 3.13.1 organizational structure
  - 3.13.2 governance
  - 3.13.3 scope of responsibility

4. demonstrate effective skills for officiating sport in simulated scenarios and actual game, event and/or competition situations

- 4.1 assess and evaluate skills of another official in a sport in person or through video review
- 4.2 demonstrate movement skills necessary to assess the field of play accurately and effectively
- 4.3 demonstrate movement strategies for maintaining positions on the field to prevent potential conflict between players or participants

4.4 demonstrate effective signaling, including:
    4.4.1 clarity
    4.4.2 confidence (attitude)
    4.4.3 whistle tone
    4.4.4 voice commands
    4.4.5 hand, body or flag signals
4.5 demonstrate strategies for maintaining control
4.6 officiate or shadow an official for at least three games in a specific sport in an intramural, class play or actual game play situations (if possible)
4.7 plan for maintaining the knowledge necessary for effective officiating, including locating:
    4.7.1 rule update opportunities for officials
    4.7.2 mentorship opportunities for officials
    4.7.3 further training for officials

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. create a transitional strategy to accommodate personal changes and build personal values

6.1 identify short-term and long-term goals
6.2 identify steps to achieve goals

COURSE REC3140: SPORT & SOCIETY

Level: Advanced

Prerequisite: None

Description: Students explore the structure and function of community, amateur and professional sport organizations. The impact of sport organizations and events on society is also examined.

Outcomes: The student will:

1. **describe the relationship between sport and society**
   - 1.1 summarize major sporting events related to a specific sport, including:
     - 1.1.1 world events
     - 1.1.2 national events
     - 1.1.3 community events
   - 1.2 summarize the role and impact of media related to sport and society, including:
     - 1.2.1 the impact on government decisions affecting funding for sport
     - 1.2.2 the impact on community support for professional teams
     - 1.2.3 the recognition of athletes as role models
   - 1.3 describe the cultural impact of a sport or sports in general
2. **explain the role, structure and function of community sport organizations in society**
   - 2.1 explain the structure and function of a community sport organization, including:
     - 2.1.1 governance
     - 2.1.2 finance
     - 2.1.3 role of volunteers
   - 2.2 summarize the structure and function of regulating organizations for a specific sport, such as community, provincial, national and international organizations
   - 2.3 interview a volunteer in a community organization, including questions to determine his or her:
     - 2.3.1 roles and responsibilities
     - 2.3.2 motivation for volunteering
     - 2.3.3 time commitment
3. **evaluate the structure and function of professional sport organizations**
   - 3.1 differentiate between professional and amateur athletes and organizations, including:
     - 3.1.1 financial compensation
     - 3.1.2 governance
     - 3.1.3 level of play
   - 3.2 explain roles and responsibilities of professionals related to professional sport organizations, including:
     - 3.2.1 members of the coaching team
     - 3.2.2 managers in the sport organization
     - 3.2.3 team support services staff
     - 3.2.4 allied medical support staff
     - 3.2.5 scouts
   - 3.3 explain the structure and function of scouting related to a specific sport
   - 3.4 create a personal sport profile
   - 3.5 explain the characteristics of an effective coaching staff

3.6 describe the components of the legal and financial relationships of an athlete to a professional sport organization, including:
    3.6.1 contract negotiation
    3.6.2 role of agent representation and/or legal representation
    3.6.3 commission for services and/or performance
3.7 explain the structure and operations of a professional sporting organization, including operations necessary for:
    3.7.1 financial goals
    3.7.2 equipment, facility and administrative costs
    3.7.3 accommodation and travel needs
    3.7.4 legal needs
    3.7.5 marketing needs
3.8 summarize the structure and function of regulating organizations for a specific professional sport organization
3.9 describe the impact of marketing strategies related to sport, including the impact of:
    3.9.1 media on athletes
    3.9.2 media on decisions made by sporting organizations
    3.9.3 societal values related to sport
    3.9.4 sponsorship

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. create a transitional strategy to accommodate personal changes and build personal values

5.1 identify short-term and long-term goals
5.2 identify steps to achieve goals

COURSE REC3910: REC PROJECT D

Level: Advanced

Prerequisite: None

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

Parameters: Advanced project courses must connect with a minimum of two CTS courses, one of which must be at the advanced level and be in the same occupational area as the project course. The other CTS course(s) must be at least at the intermediate level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

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 connection between this project course and two or more CTS courses**
   - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
   - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
2. **propose the project and/or performance**
   - 2.1 identify the project and/or performance by:
     - 2.1.1 preparing a plan
     - 2.1.2 clarifying the purposes
     - 2.1.3 defining the deliverables
     - 2.1.4 specifying time lines
     - 2.1.5 explaining terminology, tools and processes
     - 2.1.6 defining 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 the 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 the project and/or performance and make necessary adjustments
   - 3.3 present the project and/or performance, indicating the:
     - 3.3.1 outcomes attained
     - 3.3.2 relationship of outcomes to goals originally set

3.4 evaluate the project and/or performance, indicating the:
    3.4.1 processes and strategies used
    3.4.2 recommendations on 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. create a transitional strategy to accommodate personal changes and build personal values

5.1 identify short-term and long-term goals
5.2 identify steps to achieve goals

COURSE REC3920: REC PROJECT E

Level: Advanced

Prerequisite: None

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

Parameters: Advanced project courses must connect with a minimum of two CTS courses, one of which must be at the advanced level and be in the same occupational area as the project course. The other CTS course(s) must be at least at the intermediate level from any occupational area.

Project courses cannot be connected to other project courses or practicum courses.

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 connection between this project course and two or more CTS courses**
   - 1.1 identify the outcome(s) from each identified CTS course that support the project and/or performance deliverables
   - 1.2 explain how these outcomes are being connected to the project and/or performance deliverables
2. **propose the project and/or performance**
   - 2.1 identify the project and/or performance by:
     - 2.1.1 preparing a plan
     - 2.1.2 clarifying the purposes
     - 2.1.3 defining the deliverables
     - 2.1.4 specifying time lines
     - 2.1.5 explaining terminology, tools and processes
     - 2.1.6 defining 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 the 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 the project and/or performance and make necessary adjustments
   - 3.3 present the project and/or performance, indicating the:
     - 3.3.1 outcomes attained
     - 3.3.2 relationship of outcomes to goals originally set

3.4 evaluate the project and/or performance, indicating the:
    3.4.1 processes and strategies used
    3.4.2 recommendations on 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. create a transitional strategy to accommodate personal changes and build personal values

5.1 identify short-term and long-term goals
5.2 identify steps to achieve goals

COURSE REC3950: REC ADVANCED PRACTICUM

Level: Advanced

Prerequisite: None

Description: Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Parameters: This practicum course, which may be delivered on- or off-campus, should be accessed only by students continuing to work toward attaining a recognized credential/credentials or an articulation offered by an external organization. This course must be connected to at least one CTS course from the same occupational area and cannot be used in conjunction with any introductory (1XXX) level course. A practicum course cannot be delivered as a stand-alone course, cannot be combined with a CTS project course and cannot be used in conjunction with the Registered Apprenticeship Program or the Green Certificate Program.

Outcomes: The student will:

1. **perform assigned tasks and responsibilities, as required by the organization granting the credential(s) or articulation**
   - 1.1 identify regulations and regulatory bodies related to the credential(s) or articulation
   - 1.2 describe personal roles and responsibilities, including:
     - 1.2.1 key responsibilities
     - 1.2.2 support functions/responsibilities/expectations
     - 1.2.3 code of ethics and/or conduct
   - 1.3 describe personal work responsibilities and categorize them as:
     - 1.3.1 routine tasks; e.g., daily, weekly, monthly, yearly
     - 1.3.2 non-routine tasks; e.g., emergencies
     - 1.3.3 tasks requiring personal judgement
     - 1.3.4 tasks requiring approval of a supervisor
   - 1.4 demonstrate basic employability skills and perform assigned tasks and responsibilities related to the credential(s) or articulation
2. **analyze personal performance in relation to established standards**
   - 2.1 evaluate application of the attitudes, skills and knowledge developed in related CTS courses
   - 2.2 evaluate standards of performance in terms of:
     - 2.2.1 quality of work
     - 2.2.2 quantity of work
   - 2.3 evaluate adherence to workplace legislation related to health and safety
   - 2.4 evaluate the performance requirements of an individual who is trained, experienced and employed in a related occupation in terms of:
     - 2.4.1 training and certification
     - 2.4.2 interpersonal skills
     - 2.4.3 technical skills
     - 2.4.4 ethics

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. create a transitional strategy to accommodate personal changes and build personal values

4.1 identify short-term and long-term goals

4.2 identify steps to achieve goals