**Course Description:**

In this, first course students will apply procedures and techniques used in athletic training and in the care and rehabilitation of athletic injuries and therapeutic exercise. Topics include injury prevention, conditioning, and wound care techniques of the musculoskeletal system. Students will learn techniques in the analysis of mechanical factors related to human movement. In addition, current trends, technology, legal considerations, and the role of exercise science in relationship to other health fields will be emphasized.

**Strand 1. Business Operations/21st Century Skills**

Learners apply principles of economics, business management, marketing and employability in an entrepreneur, manager and employee role to the leadership, planning, developing and analyzing of business enterprises related to the career field.

**Outcome 1.1. Employability Skills**

Develop career awareness and employability skills (e.g., face‐to‐face, online) needed for gaining and maintaining employment in diverse business settings.

**Competencies**

1.1.1. Identify the knowledge, skills and abilities necessary to succeed in careers.

1.1.2. Identify the scope of career opportunities and the requirements for education, training, certification, licensure and experience.

1.1.4. Describe the role and function of professional organizations, industry associations and organized labor and use networking techniques to develop and maintain professional relationships.

1.1.6. Explain the importance of work ethic, accountability and responsibility and demonstrate associated behaviors in fulfilling personal, community and workplace roles.

1.1.8. Identify the correlation between emotions, behavior and appearance and manage those to establish and maintain professionalism.

1.1.12. Identify healthy lifestyles that reduce the risk of chronic disease, unsafe habits and abusive behavior.

*An “X” indicates that the pathway applies to the outcome.*

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome 1.2. Leadership and Communications**

Process, maintain, evaluate and disseminate information in a business. Develop leadership and team building to promote collaboration.

**Competencies**

1.2.1. Extract relevant, valid information from materials and cite sources of information (e.g.,

medical reports, fitness assessment, medical test results).

1.2.2. Deliver formal and informal presentations.

1.2.3. Identify and use verbal, nonverbal and active listening skills to communicate effectively.

1.2.6. Use proper grammar and expression in all aspects of communication.

1.2.8. Identify the strengths, weaknesses and characteristics of leadership styles that influence internal and external workplace relationships.

1.2.9 . characteristics of leadership styles that influence internal and external workplace relationships.

1.2.10. Use interpersonal skills to provide group leadership, promote collaboration and work in a team.

1.2.11. Write professional correspondence, documents, job applications and resumés.

1.2.12. Use technical writing skills to complete forms and create reports.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 1.3. Business Ethics and Law**

Analyze how professional, ethical, and legal behavior contributes to continuous improvement in organizational performance and regulatory compliance.

**Competencies**

1.3.1. Analyze how regulatory compliance affects business operations and organizational performance.

1.3.2. Follow protocols and practices necessary to maintain a clean, safe, and healthy work

environment.

1.3.3. Use ethical character traits consistent with workplace standards (e.g., honesty, personal

integrity, compassion, justice).

1.3.4. Identify how federal and state consumer protection laws affect products and services.

1.3.5. Access and implement safety compliance measures (e.g., quality assurance information, safety

data sheets [SDSs], product safety data sheets [PSDSs], United States Environmental Protection Agency [EPA], United States Occupational Safety and Health Administration [OSHA]) that contribute to the continuous improvement of the organization.

1.3.6. Identify deceptive practices (e.g., bait and switch, identity theft, unlawful door-to-door sales,

deceptive service estimates, fraudulent misrepresentations) and their overall impact on organizational performance.

1.3.7. Identify the labor and practice laws that affect employment and the consequences of

noncompliance for both employee and employer (e.g., harassment, labor, employment, employment interview, testing, minor labor laws, Americans with Disabilities Act, Fair Labor Standards Acts, Equal Employment Opportunity Commission [EEOC], human trafficking) and interpret personal safety rights according to the employee Right-to-Know Plan.

1.3.8. Verify compliance with computer and intellectual property laws and regulations.

1.3.9. Identify potential conflicts of interest (e.g., personal gain, project bidding) between personal,

organizational, and professional ethical standards.

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**Strand 2. Human Body System**

Learners will describe the various anatomy, physiology, and pathophysiology associated with body systems and alterations related to the normal developmental process, obtain a health history, perform an evaluation of the body systems, and document using medical terminology.

**Outcome: 2.1. Human Anatomy, Physiology, and Pathophysiology**

Describe the various human body systems, alterations related to the normal developmental process and possible dysfunctions.

**Competencies**

2.1.2. Describe the physical characteristics, components and function of blood (e.g., ABO, Rh, blood cells, precursors and respiratory)

2.1.3 Describe the structures and functions of the cardiovascular system and trace the path of blood and identify factors affecting blood flow.

2.1.4. Describe how blood pressure is controlled and identify factors influencing changes in blood pressure.

2.1.6. Describe function of nerve tissue, nervous system, including regions of the brain.

2.1.15. Describe the difference between pathology and physiology and the conditions typically observed during a disease state.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 2.2. Evaluate Body Systems**

Assess the biopsychosocial state of the patient and document using medical terminology.

**Competencies**

2.2.1. Provide privacy and demonstrate sensitivity for diverse populations.

2.2.2. Contact interpretive services for non‐English speaking and English Language Learners (ELL).

2.2.3. Use developmentally appropriate language to systematically review disease processes related to each body system.

2.2.7. Identify site, onset, type, quality and degree of pain.

2.2.8. Identify factors affecting degree and quality of pain.

2.2.12. Measure range of motion and determine joint mobility.

2.2.13. Measure muscle strength.

2.2.14. Identify various wounds and skin conditions.

2.2.15. Measure and document excessive body fluid loss.

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**Outcome: 2.3. Medical Terminology**

Decipher medical terms through word origin and structure with an emphasis on derivation, meaning, pronunciation and spelling.

**Competencies**

2.3.1. Build and decipher medical term meanings by identifying and using word elements (e.g., word roots, prefixes, suffixes, and combining forms).

2.3.2. Apply the rules used to build singular and plural forms of medical terminology derived from the Greek and Latin language.

2.3.3 Use diagnostic, symptomatic, and procedural terms to read and interpret various medical reports.

2.3.4. Use abbreviations and symbols to identify anatomical, physiological and pathological classifications and the associated medical specialties and procedures.

2.3.5. Communicate medical instructions and prepare medical documents using medical terminology.

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| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Strand 3.**  **Therapeutic Interventions**

Learners will assist with improving the individual's health outcome and quality of life throughout the lifespan within their scope of practice.

**Outcome: 3.1. Environmental Interventions**

Create and maintain a safe, sterile, efficient, and developmentally appropriate care environment.

**Competencies**

3.1.1. Use standard precaution guidelines, recommended by the governing bodies for reducing the risk of transmission of pathogens.

3.1.2. Maintain individuals’ rights, respect individual’s choices and describe informed consent.

3.1.3. Describe confidentiality guidelines in the Health Insurance Portability and Accountability Act

(HIPAA).

3.1.6. Identify risks associated with chemical, electrical, and aquatic elements in the work environment.

3.1.14. Use principles of ergonomics to perform therapeutic interventions.

3.1.15. Account for all instruments, supplies and equipment.

3.1.16. Control the level of distractions and noise in a patient care environment.

3.1.17. Identify and respond to emergency call lights and alarms.

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| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 3.2. Health Promotion Interventions**

Identify and communicate health promotion and wellness to individuals, support systems, and communities.

**Competencies**

3.2.1. Describe the national and state health agenda for wellness.

3.2.2 Measure and classify body composition, neuromuscular flexibility, agility, balance, coordination and proprioception.

3.2.3 Measure and classify an individual’s cardiorespiratory fitness, muscular strength, endurance and power.

3.2.5. Communicate relevant information to promote, maintain and restore overall wellness.

3.2.7. Identify the components of wellness.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 3.3. Pharmaceutical Interventions**

Prepare, administer, store and document medications, reactions and outcomes according to laws, regulations and authorized health care provider orders and protocols.

**Competencies**

3.3.14. Identify fluid and electrolyte imbalances, side‐effects and adverse reactions.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 3.5. Nutritional Interventions**

Identify nutritional needs and communicate information to the individual and support system.

**Competencies**

3.5.2. Calculate the energy of carbohydrates, proteins and fats.

3.5.3. Describe nutritional supplements and ergogenic aids and potential effects.

3.5.4. Calculate caloric needs of the individual and refer the individual to nutritional resources for

optimal health and performance.

3.5.5. Provide diet and hydration guidelines to maintain optimal health.

3.5.10. Measure and classify based on anthropometric measurements.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 3.6. Exercise and Rehabilitative Intervention**

Evaluate, define and perform training, and document therapies to enhance mobility and muscle strength.

**Competencies**

3.6.1. Complete a comprehensive fitness evaluation.

3.6.2. Evaluate kinesthetic awareness as related to functional movement.

3.6.3. Design and implement an individualized training program by using interval, continuous and circuit training techniques.

3.6.4. Calculate the differences in caloric costs between exercise types.

3.6.5. Apply techniques to enhance neuromuscular flexibility, muscle strength, endurance and flexibility.

3.6.6. Perform active, passive, assistive and resistive Range‐of‐Motion (ROM) on joints.

3.6.7. Identify aquatic exercises for improvement of ROM, strength and cardiovascular benefits.

3.6.8. Modify physical activity to accommodate specific medical conditions and stages of development.

3.6.9. Fit ambulatory aids and perform gait training.

3.6.10. Apply protective taping, wrapping, padding and protective equipment to upper and lower extremities.

3.6.11. Describe techniques to disrupt the interpretation of pain.

3.6.12. Apply evidence‐based therapeutic interventions (e.g., cryotherapy, thermotherapy, hydrotherapy, light therapy, electrotherapy).

3.6.13. Apply the frequency, intensity, time, type (FITT) principle to health and skill conditioning activities.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Strand 4. Assistive Care**

Learners demonstrate the skills and knowledge to provide personal assistive care for the activities of daily living to a variety of individuals across stages of development within their scope of practice.

**Outcome: 4.1. Scope of Practice**

Describe the roles and responsibilities of assistive personnel and identify the medical specialists who treat disorders of each body system.

**Competencies**

4.1.5. Identify the medical specialists who treat disorders of each body system.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 4.2. Therapeutic Communication and Interpersonal Skills**

Demonstrate and document communication techniques and behaviors when communicating and interacting with individuals.

**Competencies**

4.2.1. Interpret non‐verbal communication, including gestures, posture, touch, facial expressions, eye contact, body movements, avoidance and appearance.

4.2.2. Describe the importance of maintaining an individual’s personal space.

4.2.3. Identify the importance of empathy in interpersonal relationships and the need for kindness, patience and listening.

4.2.8. Provide aids to facilitate communication for speech impaired individuals (e.g., picture cards, slates, notepads).

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Outcome: 4.5.**  **Ambulation and Mobility**

Assist and document the safe ambulation and mobility of individuals across stages of development.

**Competencies**

4.5.1. Describe risks of immobilization and take measures to prevent complications.

4.5.2. Educate and monitor use of assistive devices based on individual needs.

4.5.3. Operate wheelchairs, Geri Chairs and lifts.

4.5.4. Educate an individual for ambulation with skid‐proof footwear, use gait belt and encourage

the individual to use assistive devices.

4.5.5. Reposition slowly to avoid adverse outcomes.

4.5.6. Support the individual to prevent falls or injury.

4.5.7. Position the individual in bed for comfort, to maintain proper body alignment and to decrease pressure on boney prominences.

*An “X” indicates that the pathway applies to the outcome.*

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |

**Strand 6. Health Information Management**

Learners will demonstrate basic computer literacy, health information literacy and skills, confidentially and privacy of health records, information security and basic skills in the use of electronic health records.

**Outcome: 6.2. Confidentiality, Privacy and Security**

Apply the fundamentals of confidentiality, privacy and security to communicate health/medical information accurately and within legal/regulatory bounds to other external entities.

**Competencies**

6.2.2. Differentiate between types of evidence used in healthcare litigation, process of discovery and the permissible use of evidence in litigation, recognizing the elements of negligence and medical malpractice.

6.2.3. Interpret regulatory requirements, standards of practice, legal responsibility, limitations and implications of actions and describe the appropriate avenues for reporting incidences of malpractice or negligence.

6.2.4. Identify what constitutes the authorized access, release and use of personal health information.

6.2.5. Distinguish confidential and non‐confidential information, and document and prioritize requests for personal health information according to privacy and confidentiality guidelines.

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| **Pathways** |  | Health Information Management | X | Medical Bioscience | X | Allied Health and Nursing | |  | Exercise Science and Sports Medicine | X | Therapeutic Services |
| **Green Practices** |  | Green-specific |  | Context-dependent | | X | Does not apply | | |  |  |