**Course Description:**

Students will apply psychomotor nursing skills needed to assist individuals in meeting basic human needs. Students will implement interventions following a nursing assistant plan of care. Students will collect patient's vital signs including temperature, pulse rate, respiration rate, and blood pressure. Students will perform phlebotomy procedures with emphasis on infection prevention, universal precautions, proper patient identification, specimen acquisition, handling, and processing. Additionally, students will observe patients' physical, mental, and emotional conditions and document any change.

**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.

1.1.3. Develop a career plan that reflects career interests, pathways and secondary and

postsecondary options.

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.

1.1.5. Develop strategies for self‐promotion in the hiring process (e.g., filling out job applications,

résumé writing, interviewing skills, portfolio development).

1.1.6. Explain the importance of work ethic, accountability and responsibility and demonstrate

associated behaviors in fulfilling personal, community and workplace roles.

1.1.7. Apply problem‐solving and critical‐thinking skills to work‐related issues when making decisions

and formulating solutions.

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

establish and maintain professionalism.

1.1.9. Give and receive constructive feedback to improve work habits.

1.1.10. Adapt personal coping skills to adjust to taxing workplace demands.

1.1.11. Recognize different cultural beliefs and practices in the workplace and demonstrate respect

for them.

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** | X | Health Information Management | x | Medical Bioscience | X | Allied Health and Nursing | | | X | Exercise Science and Sports Medicine |
| **Green** |  | Green-specific |  | Context-dependent | | |  | 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.

1.2.4. Use negotiation and conflict‐resolution skills to reach solutions.

1.2.5. Communicate information for an intended audience and purpose.

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

1.2.7. Use problem‐solving and consensus‐building techniques to draw conclusions and determine

next steps.

1.2.8. Identify the strengths, weaknesses and characteristics of leadership styles that influence

internal and external workplace relationships.

1.2.9. Identify advantages and disadvantages involving digital and/or electronic communications.

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.

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

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| **Pathways** | X | Health Information Management | x | Medical Bioscience | X | Allied Health and Nursing | | | X | Exercise Science and Sports Medicine |
| **Green Practices** |  | Green-specific |  | Context-dependent | | |  | 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**

1.3.2. 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).

1.3.7. 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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| **Green Practices** |  | Green-specific |  | Context-dependent | | |  | Does not apply | | |

**Outcome: 1.4. Knowledge Management and Information Technology**

Demonstrate current and emerging strategies and technologies used to collect, analyze, record and share information in business operations.

**Competencies**

1.4.1. Use office equipment to communicate (e.g., phone, radio equipment, fax machine, scanner,

public address systems).

1.4.3. Verify compliance with security rules, regulations and codes (e.g., property, privacy, access,

accuracy issues, client and patient record confidentiality) pertaining to technology specific to

the industry pathway.

1.4.7. Use personal information management and productivity applications to optimize assigned

tasks (e.g., lists, calendars, address books).

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

**Outcome: 1.5. Global Environment**

Evaluate how beliefs, values, attitudes and behaviors influence organizational strategies and goals.

**Competencies**

1.5.1. Describe how cultural understanding, cultural intelligence skills and continual awareness are

interdependent.

1.5.3. Use cultural intelligence to interact with individuals from diverse cultural settings.

1.5.4. Recognize barriers in cross‐cultural relationships and implement behavioral adjustments.

1.5.5. Recognize the ways in which bias and discrimination may influence productivity and

profitability.

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

**Outcome: 1.6. Business Literacy**

Develop foundational skills and knowledge in entrepreneurship, financial literacy and business operations.

**Competencies**

1.6.9. Explain how the performance of an employee, a department and an organization is assessed.

1.6.11. Describe how all business activities of an organization work within the parameters of a

budget.

1.6.12. Describe classifications of employee benefits, rights, deductions and compensations.

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

**Strand 2. Human Body System**

Learners will discuss the various forms, functions and pathophysiology associated with body systems and alterations related to the normal aging process, obtain a health history, perform an evaluation of body systems and document using medical terminology.

**Outcome 2.1. Human Body Form, Function and Pathophysiology**

Discuss the various human body systems, alterations related to the normal aging process and possible dysfunctions.

**Competencies**

2.1.1. Describe the physical characteristics, components and function of blood (e.g., ABO, Rh, blood

cells, precursors and respiratory).

2.1.2. Describe the cardiovascular system and trace the path of blood and factors affecting blood

flow.

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

2.1.4. Describe the function and components of the respiratory system and pulmonary ventilation

and factors influencing respiratory rates.

2.1.5. Describe nerve tissue and the nervous system, including regions of the brain and their

function, the spinal nerves, signal transmission at synapses and the sympathetic and

parasympathetic system.

2.1.6. Describe the musculoskeletal system, including skeletal, cardiac and smooth muscle, various

bone structures and the role of bone marrow and joints and injuries.

2.1.7. Describe the gastrointestinal system, including structures of chewing, swallowing, digestion

and elimination and the role of accessory organs including the liver, pancreas and gallbladder.

2.1.8. Describe the urinary system structures and principles of glomerular filtration, electrolyte

exchanges and their role in the production of red blood cells and the control of blood

pressure.

2.1.9. Describe the immune system and the lymphatic system's role in immunity.

2.1.10. Describe the sensory system, related structures and functions.

2.1.11. Describe the endocrine system, its structures and the role of hormones.

2.1.12. Differentiate between the male and female reproductive system, structures and function.

2.1.13. Describe the integumentary system, related structures and functions.

2.1.14. Describe the difference between pathology and physiology and the conditions typically

observed during a disease state.

2.1.15. Explain the pathophysiology changes associated with or resulting from disease or injury.

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

**Outcome 2.2. Evaluate Body Systems**

Use interviewing techniques, observation, auscultation, palpation and percussion to perform a systematic head‐to‐toe evaluation of the body systems and document using medical terminology.

**Competencies**

2.2.1. Provide privacy and demonstrate cultural sensitivity.

2.2.2. Contact interpretive services for non‐English speaking and English as a Second Language (ESL)

individuals.

2.2.3. Use age‐appropriate language to systematically review disease processes related to each body

system (e.g., vaccinations, allergies, reactions, history of abuse, history of suicidal ideation,

alcohol use, risk behaviors, stressors, sleep patterns, nutritional patterns, occupation, living

conditions, current medications, over‐the‐counter medications, herbals).

2.2.4. Perform vital signs.

2.2.5. Determine level of consciousness and cognition.

2.2.6. Determine pupil reactivity and accommodation.

2.2.7. Determine site, onset, type, quality and level of pain.

2.2.8. Determine what decreases and increases the pain experience.

2.2.9. Auscultate lungs for abnormal breath sounds.

2.2.10. Perform pulmonary function testing (e.g., vital capacity, tidal volumes, total lung capacity).

2.2.11. Auscultate bowel sounds and palpate abdomen for distention and tautness.

2.2.12. Determine joint mobility and muscle strength (e.g., range‐of‐motion).

2.2.13. Identify open wounds, skin abrasions, decubitus and rashes.

2.2.14. Observe for excessive body fluid loss (i.e., blood loss, diarrhea, vomiting, profuse diaphoresis).

2.2.15. Identify symptoms of substance abuse.

2.2.16. Identify patterns of behavior to determine risk to self and others.

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

**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, combining forms).

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

reports.

2.3.4. Use the appropriate abbreviations and symbols to identify anatomical, physiological and

pathological classifications and the associated medical specialties and procedures.

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

**Strand 3. Therapeutic Interventions**

Learners will administer or assist with environmental, health promotion, pharmacological, emergency, nutritional, exercise and rehabilitative and dental and surgical interventions and/or procedures to improve the individuals’ outcome and quality of life across the life span within their scope of practice, evaluate outcomes and ensure individual’s rights.

**Outcome 3.1. Environmental Interventions**

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

**Competencies**

3.1.1. Use standard precaution guidelines, recommended by the Centers for Disease Control and

Prevention, for reducing the risk of transmission of blood‐borne and other pathogens.

3.1.2. Maintain patients’ rights, respect individual’s choices and obtain informed consent.

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

(HIPAA).

3.1.4. Decrease the risk of injury and elopement to the individual or others (e.g., by using restraints,

alarms, bedrails, hi‐low beds, padding, non‐slip footwear and hand rails).

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

3.1.6. Identify and remove environmental and electrical hazards to decrease the risk of falls, injury,

or ingestion of dangerous materials (e.g., clutter, equipment, throw rugs, spills, plants,

hazardous chemicals).

3.1.7. Demonstrate chemical and electrical safety and their application to the work environment.

3.1.11. Determine risk of bleeding and implement precautions.

3.1.12. Implement disaster preparedness response to fire, tornado, emergency evacuation, hazardous

material spill, infant/child abduction, bomb threat, violent person, active shooter, missing

adult and loss of power.

3.1.13. Identify risk factors of exposure to hazardous materials (i.e., chemical, radiologic, microbial)

and provide safety precautions.

3.1.14. Apply principles of asepsis and sterile techniques and determine recommended use of

germicides (e.g., sterilant, disinfectant, antiseptic).

3.1.15. Follow Standard Operational Protocols (SOP's) for exposure and disposal of tissue cultures,

contaminated materials, body fluids and radioisotopes and place sharps in biohazard

containers.

3.1.16. Use proper body mechanics to perform therapeutic interventions.

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

**Outcome 3.2. Health Promotion Interventions**

Identify and communicate health promotion and wellness to individuals, families and

communities.

**Competencies**

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

3.2.4. Identify the needs of the individual, family and community related to physical, biological,

technological, spiritual, religious, social and behavioral concepts.

3.2.5. Share information to promote, maintain and restore.

3.2.7. Communicate the medical benefits and risks associated with immunizations across the life

span.

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

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

**Outcome 3.4. Emergency Interventions**

Respond to emergencies and natural disasters by performing emergency interventions and proper documentation.

**Competencies**

3.4.1. Perform cardiopulmonary resuscitation (CPR), first‐aid and automated external defibrillation

(AED).

3.4.2. Control hemorrhage.

3.4.3. Recognize and respond to anaphylactic shock.

**Outcome 3.5. Nutritional Interventions**

Identify nutritional needs and communicate information to the individual and family member.

**Competencies**

3.5.1. Describe the role and effects of carbohydrates, proteins, fats, electrolytes, minerals, vitamins

and water in different body systems and life processes.

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

3.5.3. Describe ergogenic aids and possible benefits and risks.

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.

3.5.6. Describe which drugs interact with certain foods.

3.5.7. Describe types of allergic reactions to foods and food intolerances.

3.5.8. Describe regional, cultural and religious food preferences.

3.5.9. Monitor intake and output when medically indicated.

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

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

**Outcome 3.6. Exercise and Rehabilitative Intervention**

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

**Competencies**

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

3.6.8. Use aquatic exercises for improvement of ROM, strength and cardiovascular benefits.

3.6.9. Modify physical activity to accommodate specific medical conditions and changes across the

life span (e.g., asthma, sickle cell, diabetes, osteoporosis, skeletal‐muscular disorders, age,

pregnancy).

3.6.10. Fit ambulatory aids and perform gait training.

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

extremities.

3.6.13. Apply evidence‐based therapeutic modalities (e.g., cryotherapy, thermotherapy,

hydrotherapy, light therapy, electrotherapy).

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

**Strand 4. Assistive Care**

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

**Outcome 4.1. Scope of Practice**

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

**Competencies**

4.1.2. Inform the supervisor of any changes in the individual’s condition.

4.1.3. Provide input to and work within an age‐appropriate plan of care developed by the

interdisciplinary team for each individual.

4.1.4. Describe the primary purpose of healthcare settings (e.g., long‐term care facility [LTCF], acute

care, home health).

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

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

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

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

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

**Competencies**

4.2.1. Describe 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. Describe the importance of empathy in interpersonal relationships and the need for kindness,

patience and listening.

4.2.4. Maintain aids that promote oral, auditory and visual health (e.g., eye glasses, hearing aids,

dentures).

4.2.5. Arrange food and utensils on the meal tray in a clock fashion for visually impaired individuals.

4.2.6. Position an individual for meals to avoid choking and assist in feeding.

4.2.7. Maintain a proper environment for eating (e.g., noxious odors, contaminated items, loud

noises).

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

slates, notepads).

**Outcome 4.3. Pathogenic Microorganisms, Infection Control and Infection**

Use basic principles of infection control to prevent the growth and spread of pathogenic microorganisms and infection.

**Competencies**

4.3.1. Describe the chain of infection (e.g., host, vectors, portal of entry).

4.3.2. Describe mechanisms for the spread of infection, including airborne, vector‐borne, common

vehicle, droplet and contact.

4.3.3. Describe methods of controlling or eliminating microorganisms and the importance of

practices that hinder the spread of infection (e.g., hand washing, disinfecting care areas).

4.3.4. Use personal protective equipment (PPE) when encountering body fluids, potential of

splashing, or respiratory droplets.

4.3.5. Demonstrate various decontamination techniques and procedures.

4.3.6. Demonstrate precaution guidelines.

4.3.7. Maintain isolation precautions.

4.3.8. Identify signs and symptoms of infection (e.g., fever, confusion, areas of redness, swelling,

pain).

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

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

**Outcome 4.4. Hygiene**

Perform personal hygiene for individuals across the life span and document.

**Competencies**

4.4.1. Perform oral and denture care.

4.4.2. Perform personal hygiene (e.g., bathing, perineal care, shaving, shampooing).

4.4.3. Assist or dress and undress impaired individuals.

4.4.4. Perform nail care, foot soaks and observe skin for reddened or discolored areas and

abnormalities.

4.4.5. Observe and report skin condition over boney prominences.

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

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

**Outcome 4.5. Ambulation and Mobility**

Assist in the safe ambulation and mobility of individuals across the life span continuum and document.

**Competencies**

4.5.1. Describe risks of immobilization and take measures (e.g., apply anti‐embolic stockings,

breathing, turning) to prevent complications.

4.5.2. Apply assistive devices based on individual needs.

4.5.3. Operate wheelchairs, Geri Chairs and lifts.

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

the individual to use assistive devices.

4.5.5. Demonstrate ambulation techniques for the use of walkers, crutches and canes.

4.5.6. Reposition slowly to avoid postural hypotension.

4.5.7. Support the individual on the affected side of the body to prevent falls or injury.

4.5.8. 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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| **Green Practices** |  | Green-specific |  | Context-dependent | | |  | Does not apply | | |

**Outcome 4.6. Elimination**

Assist with elimination needs across the life span continuum and document.

**Competencies**

4.6.1. Describe changes in elimination related to the aging process.

4.6.2. Measure intake and output.

4.6.3. Describe the importance of and develop a toileting schedule to maintain the individual’s

dignity, prevent falls and decrease skin irritation.

4.6.4. Identify signs and symptoms of constipation, diarrhea and gastro‐intestinal or rectal bleeding.

4.6.5. Assist with elimination needs (e.g., bedpan, commode, urinal).

4.6.6. Maintain a closed urinary catheter system.

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

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

**Outcome 4.7. Psycho‐social, Behavioral and Emotional**

Provide for psycho‐social, behavioral and emotional development and assist individuals with disorders.

**Competencies**

4.7.1. Engage an individual in structured social activities and interactions to orient to person, place

and time.

4.7.2. Observe for overstimulation and situations requiring crisis intervention.

4.7.4. Promote independence, self‐care and self‐actualization.

4.7.7. Describe the importance of providing time for an individual with development and physical

disabilities to communicate and perform tasks.

4.7.9. Assist clients with appropriate coping mechanisms.

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

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

**Outcome 4.8. End‐of‐Life Care**

Provide physical, emotional and spiritual support to individuals and families at end‐of‐life.

**Competencies**

4.8.1. Describe variations in advanced directives and responsibilities of healthcare providers.

4.8.2. Identify stages of reaction to death and dying (e.g., denial, anger, bargaining, depression,

acceptance).

4.8.3. Describe the goal of palliative care and hospice.

4.8.4. Provide resources for an individual’s cultural, spiritual and religious needs.

4.8.5. Enable individuals to express their feelings and to control their care.

4.8.6. Perform postmortem care in compliance with legal guidelines and cultural, spiritual and

religious preferences.

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

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

**Strand 5. Bioscience Research and Development**

Learners will demonstrate the skills and knowledge of interpreting laboratory requests, using protective clothing and hazardous material containment, specimen collection procedures, a variety of laboratory testing and techniques and maintenance of laboratory equipment and supplies.

**Outcome 5.1. Handling, Preparation, Storage and Disposal**

Follow standard operating protocols for handling, preparing, storing and disposing of

specimens, supplies and equipment.

**Competencies**

5.1.1. Use standard operating procedures for the safe use of instruments, equipment and gas

cylinders.

5.1.2. Prepare and interpret labels for chemicals, supplies and equipment.

5.1.3. Use chemical references to identify hazards associated with handling and storing chemical

materials.

5.1.4. Neutralize acids, bases, or caustic solutions for handling and disposal.

5.1.5. Ensure clean room integrity using Standard Operating Procedures (SOPs).

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

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

**Outcome 5.3. Microbiology Testing and Technology**

Describe the morphology and process of reproduction of microorganisms important in clinical disease and biotechnology applications and perform assays as a diagnostic tool to detect the presence of a pathogen.

**Competencies**

5.3.3. Explain bacterial metabolism, reproduction, cell structures and their functions.

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

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

**Outcome 5.9. Clinical Laboratory Techniques and Procedures**

Perform and interpret clinical laboratory techniques and procedures.

**Competencies**

5.9.1. Maintain the integrity of a clinical sample, including patient/client identification and chain of

custody and explain how to adhere to chain‐of‐custody guidelines when required (e.g.,

forensic studies, blood alcohol, drug screen).

5.9.2. Describe control substance procedures, protocols, documentation and labeling techniques.

5.9.3. Differentiate between aseptic and sterile procedures when collecting specimens and maintain

bio‐hazardous materials procedures (e.g., urine, feces, sputum, blood).

5.9.4. Discuss the methods of blood collection, specimen processing and labeling procedures and the

potential problems that may occur.

5.9.5. Identify patient/client and inform them of the medical procedure to be performed.

5.9.6. Initiate intravenous (IV) therapy, blood withdrawal and arterial puncture using various

techniques (e.g., butterfly, vacutainer, syringe, capillary puncture) according to current

Occupational Safety and Health Administration (OSHA), Centers for Disease Control (CDC),

Clinical Lab Improvement Act (CLIA) and the National Committee for Clinical Laboratory

Standards (NCCLS) guidelines.

5.9.7. Identify resources needed for special procedures and demonstrate knowledge of special

phlebotomy collection procedures (e.g., phenylketonuria [PKU], galactosemia, blood

donations, blood cultures).

5.9.8. Differentiate between specimen collection, storage and handling techniques (e.g.,

temperature, light, time).

5.9.9. Determine order of draw and appropriate anticoagulants for ordered tests and correlate tube

stopper colors with tube additives and their actions.

5.9.10. Identify complications of venipuncture (e.g., patient fainting, short draw, inadequate

inversion, hemolysis, lack of blood flow, hematoma, petechia, nerve injury, mastectomy

issues).

5.9.11. Prepare peripheral blood smears and discuss testing volumes and methods for minimizing

excessive blood collection volumes.

5.9.12. Set up a procedure and collect an electrocardiograph (ECG).

5.9.13. Determine the general criteria for suitability of a specimen for analysis and reasons for

specimen rejection and recollection.

5.9.14. Identify major routine tests performed in clinical lab sections (e.g., blood bank, chemistry,

hematology, serology, microbiology, urinalysis).

5.9.15. Instruct patients/clients in the collection procedures for random, routine, non‐blood specimen

collection (e.g., clean‐catch, mid‐stream urine, stool specimens, semen, or sputum for testing.)

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

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| **Pathways** | X | Health Information Management | x | Medical Bioscience | X | Allied Health and Nursing | | | X | Exercise Science and Sports Medicine |
| **Green Practices** |  | Green-specific |  | Context-dependent | | |  | 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 6.1. Health Information Literacy**

Apply principles of systems operations used to capture, retrieve and maintain information from internal and external sources.

**Competencies**

6.1.7. Differentiate between the types and content of patient health records and the data collected

(e.g., paper‐based, electronic health records, personal health records).

6.1.8. Describe health record documentation requirements of external agencies and organizations

(e.g., those specified by accrediting bodies, regulatory bodies, professional review

organizations, licensure, reimbursement, discipline‐specific “good practice”).

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

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

**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 across the organization and between organizations.

**Competencies**

6.2.1. Identify components of the court systems and distinguish between public and private law, civil

and criminal law and tort, contract actions and the trial process.

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

6.2.5. Distinguish between confidential and non‐confidential information within the healthcare

system and document, categorize and prioritize requests for personal health information

according to internal/external privacy and confidentiality guidelines (e.g. Health Insurance

Portability and Accountability Act [HIPAA]).

6.2.8. Describe the possible consequences of inappropriate use of health data in terms of

disciplinary action.

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

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

**Outcome 6.3. Electronic Health Records and Coding**

Perform functions within Electronic Health Records (EHRs) and Personal Health Record (PHRs) to ensure accurate information, retrieve information and maintain data.

**Competencies**

6.3.1. Create and update documents within the EHR and PHR systems.

6.3.2. Locate and retrieve information in the EHR and other electronic sources for a variety of

purposes.

6.3.3. Populate and use health data content.

6.3.6. Document profession‐specific information in an EHR.