**Course Description:**

Students will perform procedures to expose, process, and interpret dental radiographs. Students will apply knowledge of radiation physics, infection prevention and quality control standards that are appropriate to the clinical setting. Students will apply effective communication skills for interacting with diverse patient populations and proper procedure documentation according to business and industry standards.

**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 1.2. 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).

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

1.2.5. Communicate information for an intended audience and purpose.

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

1.2.9. 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.

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

*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 | 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**

1.3.2. 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).

1.3.5. 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.

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| **Green Practices** |  | Green-specific |  | Context-dependent | | X | 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).

1.4.2. Select and use software applications to locate record, analyze and present information (e.g., word processing, e‐mail, spreadsheet, databases, presentation, Internet search engines).

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.

1.4.4. Use system hardware to support software applications.

1.4.5. Use information technology tools to maintain, secure and monitor business records.

1.4.8. Use electronic media to communicate and follow network etiquette guidelines.

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**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.

1.5.2. Describe how cultural intelligence skills influence the overall success and survival of an organization.

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.

1.5.6. Analyze work tasks for understanding and interpretation from a different cultural perspective.

1.5.7. Use intercultural communication skills to exchange ideas and create meaning.

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**Outcome 1.6. Business Literacy**

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

**Competencies**

1.6.5. Describe organizational structure, chain of command, the roles and responsibilities of the organizational departments and interdepartmental interactions (e.g., following physician’s orders).

1.6.6. Identify the target market served by the organization, the niche that the organization fills and an outlook of the industry.

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

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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**

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

2.1.7. Describe the structures and functions of the musculoskeletal system.

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

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**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).

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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, combining forms).

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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**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.

3.1.13. Follow Occupational Health and Safety Administration protocol for exposure and disposal of contaminated hazardous waste.

3.1.14. Use principles of ergonomics to perform therapeutic interventions.

3.1.15. Account for all instruments, supplies and equipment.

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

**Outcome 3.7. Dental Interventions**

Assist in the application of dental and oral interventions and document with dental terminology and symbols.

**Competencies**

3.7.4. Compare and contrast various specialties in dentistry.

3.7.5. Identify instruments and supplies used in dental procedures.

3.7.7. Describe dental pain management.

3.7.8. Describe the science of radiation production, safety and protection.

3.7.9. Describe the composition, sizes, types, mounting and storage procedures of dental x‐ray.

3.7.10. Describe principles of digital radiography and equipment needed.

3.7.11. Describe common x‐ray production and processing errors and their corrections.

3.7.12. Describe the paralleling and bisecting x‐ray techniques and needed equipment.

3.7.13. Take intraoral and extraoral photographs and radiographs.

3.7.14. Identify differences in common procedures and equipment used in pediatric and adult dentistry.

3.7.15. Prepare individuals for dental intervention.

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

Describe the roles and responsibilities of assistive personnel and identify

the medical specialists who treat disorders of each body system.

**Competencies**

4.1.2. Recognize and document changes in an individual’s condition and inform supervisors.

4.1.3. Provide input to and work within an individualized plan of care developed by the interdisciplinary team.

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

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| **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. 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. Identify 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., eyeglasses, hearing aids, dentures).

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

4.2.9. Demonstrate de-escalation techniques with emotional support.

4.2.10. Describe the importance of improved communication skills and independent of independent tasks for an individual with developmental and/or physical disabilities.

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

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

**Competencies**

4.3.1. Describe the chain of infection.

4.3.2. Describe mechanisms for the spread of infection.

4.3.3. Describe methods of controlling or eliminating microorganisms and the importance of practices that hinder the spread of infection.

4.3.4. Identify and use appropriate level of 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. Identify and follow standard precaution guidelines.

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| **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 6.1. Health Information Literacy**

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

**Competencies**

6.1.7. Apply concepts of health record documentation requirements of external agencies and organizations (e.g., accrediting bodies, regulatory bodies, professional review organizations, licensure, reimbursement, discipline‐specific, evidence-based good practice).

6.1.8. Describe typical internal organizational health record documentation requirements, policies and procedures.

6.1.9. Explain how to apply policies and procedures to ensure organizational compliance with regulations and standards, including Medicare, Medicaid, and other third party payers.

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| **Green Practices** |  | Green-specific |  | Context-dependent | | X | 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 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.

6.2.4. 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.

6.2.8. Implement administrative, physical and technical safeguards to maintain data integrity and validity.

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

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