**Course Description:**

This course introduces electronic health information systems, designs, implementation, and application. Students gain knowledge and skills in techniques for managing and maintaining electronic health data and compilation, analysis, of healthcare statistics, research protocols and techniques. Topics include imaging technology, information security and integrity, data dictionaries, basic statistical principles, databases, registries, descriptive statistics, research protocol monitoring, including data collection and analysis, data sources/sets, archival systems, and quality and integrity of healthcare data.

**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: 2.3. 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.

*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 | | |  |  |

**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**

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

(HIPAA).

3.1.7. Describe and follow the precautions used in oxygen therapy and pressurized gases.

3.1.12. Differentiate and apply principles of aseptic and sterile techniques.

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**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**

3.3.1. Identify and define terms related to drugs, pharmacology, and medicines.

3.3.2. Identify drug classifications.

3.3.3. Recognize trade and generic names of prescription medications, over‐the‐ counter drugs and herbal preparations.

3.3.4. Identify and communicate elements of a prescription and relevant information.

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**Outcome: 3.7.** **Dental Interventions**

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

**Competencies**

3.7.7. Describe dental pain management.

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

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**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**

4.1.4. Describe the primary purpose of different healthcare settings.

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

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**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.

**Strand 5. Bioscience Research and Development**

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

supplies.

**Outcome: 5.8. Biotechnology Research and Experiments**

Conduct a problem-based study, applying scientific methodology and using descriptive statistics to communicate and support predictions and conclusions.

**Competencies**

5.8.1. Identify research problems, and structure a statistical experiment, simulation or study related to the problem.

5.8.2. Design research plan, including significance of problem, purpose, variables, hypotheses, and objectives, methods of study and list of materials.

5.8.4. Establish and implement procedures for systematic collection, organization and use of data.

5.8.5. Select and apply sampling methods that appropriately represent the population to be studied.

5.8.6. Define the concepts of confidence limit and significant figures.

5.8.9. Describe the relationships among variables using correlations and draw conclusions.

5.8.10. Create, interpret and use tabular and graphical displays and describe data.

5.8.11. Draw conclusions and propose next steps based on observations and data analyses, recognizing that experimental results must be open to the scrutiny of others.

5.8.12. Prepare and present findings using scientific reports.

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

Perform and interpret clinical laboratory techniques and procedures.

**Competencies**

5.9.13. Identify major routine tests performed in clinical lab sections (e.g., blood bank, chemistry, hematology, serology, microbiology, urinalysis).

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**Strand 6. Health Information Management**

Learners will demonstrate basic computer literacy, health information literacy and skills, confidentiality 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**

6.1.1. Define health information management (HIM) and differentiate among data, information and

competency.

6.1.2. Differentiate between primary and secondary health data sources and databases.

6.1.3. Describe the principles of architecture, data standards, and use of health information systems.

6.1.4. Use health record data collection tools (e.g., electronic medical/health records, meaningful use, document templates).

6.1.5. Recognize standard data definitions, vocabularies, terminologies, nomenclatures (e.g., systematically organized computer processable collection of medical terms (SNOMED‐CT), classifications (e.g., International Statistical Classification of Diseases and Related Health Problems (ICD-10), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology (CPT), and relevant healthcare data sets (e.g., The Outcome and Assessment Information Set (OASIS), epic, The Healthcare Effectiveness Data and Information Set (HEDIS), Uniform Hospital Discharge Data Set (UHDDS) as used in the organization’s health information systems.

6.1.6. Differentiate between the types and content of patient health records and the data collected (e.g., paper‐based, electronic medical/health records, personal health records, clearinghouse).

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**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**

6.2.1. Identify components of the legal system.

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.

6.2.6. Use networks, including intranet and internet, according to security and privacy policies and procedures.

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

6.2.9. Describe elements that are included in the design of audit trails and data quality monitoring programs.

6.2.10. Describe the relevance of federal, state and private sector initiatives related to the privacy, security and confidentiality of health information technology.

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

Perform functions within electronic health records (EHRs) and electronic medical records (EMRs) to ensure accurate information, retrieve information and maintain data.

**Competencies**

6.3.1. Create and update documents within the electronic health record and electronic health systems.

6.3.2. Locate and retrieve information in the electronic medical/health records and other sources.

6.3.3. Input and use health information applying management principles to ensure quality, compliance, and integrity.

6.3.4. Apply methods to ensure authenticity, timeliness, and accuracy of health data entries.

6.3.5. Document scope of practice information in an electronic health/medical record.

6.3.6. Access and apply reference material available through an electronic health/medical record or other reference system.

6.3.7. Resolve minor technology problems associated with using an electronic health/medical record.

6.3.8. Follow access protocols for entry to an electronic health/medical record.

6.3.9. Manage documents within the electronic health/medical record using standard protocol.

6.3.10. Complete health information management (HIM) functions (e.g., scanning, transcription, voice recognition, releasing information) in a paper or electronic environment.

6.3.11. Perform procedural and diagnostic coding according to federal, state and thirty party payer guidelines.

6.3.12. Complete the common insurance claim forms ensuring federal, state and third‐party insurance reimbursements are included and complete payer compliance claim forms.

6.3.13. Apply accurate medical terminology to electronic health/medical records.

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