Ohio CTE

Health Science

Business Operations/21st Century Skills: Students learn medical interventions that extend and improve quality of life including gene therapy, use, and development of prosthetics, rehabilitation techniques, and supportive care. Students will use 3D imaging, data acquisition software, and current scientific research to design and develop medical intervention products. Students will demonstrate current and emerging strategies and technologies used for collecting, analyzing, recording, and sharing information. In addition, students will develop leadership and team-building skills that promote collaboration. 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.** 1.1

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

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

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

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

5 Develop strategies for self-promotion in the hiring process (e.g., filling out job applications, resumé writing, interviewing skills, portfolio development). 1.1.5

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

7 Apply problem-solving and critical-thinking skills to work-related issues when making decisions and formulating solutions. 1.1.7

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

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

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

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

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

2 **Leadership and Communications: Process, maintain, evaluate, and disseminate information in a business. Develop leadership and team building to promote collaboration.** 1.2

1 Extract relevant, valid information from materials and cite sources of information (e.g., medical reports, fitness assessment, medical test results). 1.2.1

Deliver formal and informal presentations. 1.2.2

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

4 Use negotiation and conflict-resolution skills to reach solutions. 1.2.4

5 Communicate information for an intended audience and purpose. 1.2.5

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

7 Use problem-solving and consensus-building techniques to draw conclusions and determine next steps. 1.2.7

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

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

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

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

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

13 Identify stakeholders and solicit their opinions. 1.2.13

14 Use motivational strategies to accomplish goals. 1.2.14

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3 **Business Ethics and Law: Analyze how professional, ethical, and legal behavior contributes to continuous improvement in organizational performance and regulatory compliance.** 1.3

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

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

3 Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice). 1.3.3

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

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. 1.3.5

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. 1.3.6

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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. 1.3.7

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

9 Identify potential conflicts of interest (e.g., personal gain, project bidding) between personal, organizational, and professional ethical standards. 1.3.9

4 **Knowledge Management and Information Technology: Demonstrate current and emerging strategies and technologies used to collect, analyze, record, and share information in business operations.** 1.4

1 Use office equipment to communicate (e.g., phone, radio equipment, fax machine, scanner, public address systems). 1.4.1

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). 1.4.2

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. 1.4.3

4 Use system hardware to support software applications. 1.4.4

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

6 Use an electronic database to access and create business and technical information. 1.4.6

7 Use personal information management and productivity applications to optimize assigned tasks (e.g., lists, calendars, address books). 1.4.7

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

5 **Global Environment: Evaluate how beliefs, values, attitudes, and behaviors influence organizational strategies and goals.** 1.5

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

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

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

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

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

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

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

8 Identify how multicultural teaming and globalization can foster development of new and improved products and services and recognition of new opportunities. 1.5.8

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6 **Business Literacy: Develop foundational skills and knowledge in entrepreneurship, financial literacy and business operations.** 1.6

1 Identify business opportunities. 1.6.1

2 Assess the reality of becoming an entrepreneur, including advantages and disadvantages (e.g., risk versus reward, reasons for success and failure).v 1.6.2

3 Explain the importance of planning your business. 1.6.3

4 Identify types of businesses, ownership, and entities (i.e., individual proprietorships, partnerships, corporations, cooperatives, public, private, profit, not-for-profit). 1.6.4

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

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

7 Identify the effect of supply and demand on products and services. 1.6.7

8 Identify the features and benefits that make an organization's product or service competitive. 1.6.8

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

10 Describe the impact of globalization on an enterprise or organization. 1.6.10

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

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

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7 **Entrepreneurship/Entrepreneurs: Analyze the environment in which a business operates, and the economic factors and opportunities associated with self-employment.** 1.7

1 Compare and contrast the four types of business ownership (i.e., individual proprietorships, partnerships, corporations, cooperatives). 1.7.1

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Explain the role of profit as the incentive to entrepreneurs in a market economy. 1.7.2

3 Identify the factors that contribute to the success and failure of entrepreneurial ventures. 1.7.3

4 Assess the roles of nonprofit and for-profit businesses 1.7.4

5 Develop a business plan. 1.7.5

6 Describe life cycles of an entrepreneurial business and an entrepreneur. 1.7.6

7 Create a list of personal strengths, weaknesses, skills, and abilities needed to be successful as an entrepreneur. 1.7.7

8 Explain pathways used to become an entrepreneur. 1.7.8

9 Conduct a self-assessment to determine entrepreneurial potential. 1.7.9

10 Describe techniques for obtaining experience (e.g., apprenticeship, co-operative [co-op] education, work placement, internship, job shadowing) related to an entrepreneurial objective. 1.7.10

11 Identify initial steps in establishing a business (e.g., limited liability company [LLC], tax ID, permits, insurance, licensing). 1.7.11

12 Identify resources available to entrepreneurs (e.g., Small Business Administration, mentors, information resources, educational opportunities). 1.7.12

13 Protect intellectual property and knowledge (e.g., copyright, patent, trademark, trade secrets, processes). 1.7.13

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8 **Operations Management: Plan, organize and monitor an organization or department to maximize contribution to organizational goals and objectives.** 1.8

1 Forecast future resources and budgetary needs using financial documents (e.g., balance sheet, demand forecasting, financial ratios). 1.8.1

2 Select and organize resources to develop a product or a service. 1.8.2

3 Analyze the performance of organizational activities and reallocate resources to achieve established goals. 1.8.3

4 Identify alternative actions to take when goals are not met (e.g., changing goals, changing strategies, efficiencies). 1.8.4

5 Use inventory and control systems to purchase materials, supplies and equipment (e.g., Last In, First Out [LIFO]; First In, First Out [FIFO]; Just in Time [JIT]; LEAN). 1.8.5

6 Identify the advantages and disadvantages of carrying cost and Just-in-Time (JIT) production systems and the effects of maintaining inventory (e.g., perishable, shrinkage, insurance) on profitability. 1.8.6

7 Collect information and feedback to help assess the organization's strategic planning and policymaking processes. 1.8.7

8 Identify routine activities for maintaining business facilities and equipment. 1.8.8

9 Develop a budget that reflects the strategies and goals of the organization. 1.8.9

0 Analyze how business management and environmental management systems (e.g., health, safety) contribute to continuous improvement and sustainability. 1.8.10

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9 **Financial Management: Use financial tools, strategies, and systems to develop, monitor and control the use of financial resources to ensure personal and business financial well-being.** 1.9

1 Create, analyze, and interpret financial documents (e.g., budgets, income statements). 1.9.1

2 Identify tax obligations. 1.9.2

3 Review and summarize savings, investment strategies and purchasing options (e.g., cash, lease, finance, stocks, bonds). 1.9.3

4 Identify credit types and their uses in order to establish credit. 1.9.4

5 Identify ways to avoid or correct debt problems (e.g., collection agency payments and post- collection agency payments). 1.9.5

6 Explain how credit ratings and the criteria lenders use to evaluate repayment capacity affect access to loans. 1.9.6

7 Review and summarize categories (types) of insurance and identify how insurances can reduce financial risk. 1.9.7

8 Identify income sources and expenditures. 1.9.8

9 Compare and contrast different banking services available through financial institutions. 1.9.9

10 Identify the role of depreciation in tax planning and liability. 1.9.10

10 **Sales and Marketing: Manage pricing, place, promotion, packaging, positioning, and public relations to improve quality customer service.** 1.10

1 Identify how the roles of sales, advertising and public relations contribute to a company's brand. 1.10.1

2 Determine the customer's/client's needs and identify solutions and potential community resources. 1.10.2

3 Communicate features, benefits and warranties of a product or service to the customer/client. 1.10.3

4 Identify the company policies and procedures for initiating product and service improvements. 1.10.4

5 Monitor customer/client expectations and determine product/service satisfaction by using measurement tools. 1.10.5

6 Discuss the importance of correct pricing to support a product's or service's positioning in the marketing mix. 1.10.6

7 Describe the importance and diversity of distribution channels (i.e., direct, indirect) to sell a product. 1.10.7

8 Use promotional techniques to maximize sales revenues (e.g., advertising, sales promotions, publicity, public relations). 1.10.8

9 Describe how product mix (e.g., product line, product items) maximizes sales revenues, market, share and profit margin. 1.10.9

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10 Demonstrate sales techniques. 1.10.10

11 Principles of Business Economics: Examine and employ economic principles, concepts, and policies to accomplish organizational goals and objectives. 1.11

1 Identify the economic principles that guide geographic location of an industry's facilities (e.g., relative scarcity, price, quantity of products and services). 1.11.1

2 Identify the difference between monetary and nonmonetary incentives and explain how changes in incentives cause changes in behavior. 1.11.2

3 Use economic indicators to identify economic trends and conditions (e.g., inflation, interest rate fluctuations, unemployment rates). 1.11.3

4 Determine how the quality, quantity and pricing of goods and services are affected by domestic and international competition in a market economy. 1.11.4

5 Analyze factors that affect currency and exchange rates. 1.11.5

6 Explain how financial markets and government policies influence interest rates(credit ratings/debt ceiling), trade deficits and unemployment. 1.11.6

7 Describe how economic performance and culture are interdependent. 1.11.7

8 Identify the relationships between economy, society and environment that lead to sustainability. 1.11.8

9 Describe how laws and regulations influence domestic and international trade. 1.11.9

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. 2

1 Human Body Form, Function and Pathophysiology: Describe the various human body systems, alterations related to the normal developmental process and possible dysfunctions. 2.1

1 Identify body planes, directions, cavities, quadrants, and regions. 2.1.1

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

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

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

5 Describe the structures and functions of the respiratory system. 2.1.5

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

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

8 Describe the structures and functions of the digestive/excretory system. 2.1.8

9 Describe the structures and functions of the renal/urinary system. 2.1.9

10 Describe the immune system, related structures and functions. 2.1.10

1 Describe the structures and functions of the endocrine system. 2.1.11

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12 Differentiate between the structures and functions of the male and female reproductive systems. 2.1.12

13 Describe the structures and functions of the integumentary system. 2.1.13

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

15 Explain the pathophysiology changes associated with or resulting from disease or injury for each body system. 2.1.15

2 Evaluate Body Systems: Assess the biopsychosocial state of the patient and document using medical terminology. 2.2

1 Provide privacy and demonstrate sensitivity for diverse populations. 2.2.1

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

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

4 Obtain and document vital signs. 2.2.4

5 Identify and categorize level of consciousness and cognition. 2.2.5

6 Identify and measure pupil reactivity and accommodation. 2.2.6

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

8 Identify factors affecting degree and quality of pain. 2.2.8

9 Auscultate lungs for abnormal breath sounds. 2.2.9

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

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

12 Measure range of motion and determine joint mobility. 2.2.12

13 Measure muscle strength. 2.2.13

14 Identify various wounds and skin conditions. 2.2.14

15 Measure and document excessive body fluid loss. 2.2.15

16 Identify symptoms of substance abuse. 2.2.16

17 Identify patterns of behavior that indicate risk to self and others. 2.2.17

3 Medical Terminology: Decipher medical terms through word origin and structure with an emphasis on derivation, meaning, pronunciation and spelling. 2.3

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

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

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

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

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

Therapeutic Services: Learners will assist with improving the individual's health outcome and quality of life throughout the lifespan within their scope of practice. 3

1 **Environmental Interventions: Create and maintain a safe, sterile, efficient, and developmentally appropriate care environment.** 3.1

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

2 Maintain patients' rights, respect individual's choices, and obtain consent. 3.1.2

3 Describe confidentiality guidelines in the Health Insurance Portability and Accountability Act (HIPAA). 3.1.3

4 Decrease the risk of injury to individuals or others by using authorized strategies. 3.1.4

5 Identify and remove environmental and electrical hazards to decrease the risk of falls, injury, or ingestion of dangerous materials. 3.1.5

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

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

8 Clean, store, or dispose of supplies, specimens and laboratory glassware following protocol and standard precautions. 3.1.8

9 Determine bleeding risk factors and implement precautions. 3.1.9

10 Implement disaster preparedness response for emergency situations. 3.1.10

11 Identify risk factors of exposure to hazardous materials and demonstrate safety precautions. 3.1.11

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

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

14 Use principles of ergonomics to perform therapeutic interventions. 3.1.14

15 Account for all instruments, supplies and equipment. 3.1.15

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

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

2 **Health Promotion Interventions: Identify and communicate health promotion and wellness to individuals, support systems, and communities.** 3.2

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

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

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

4 Identify the needs of the individual, support system, and community related to physical, biological, technological, spiritual, religious, social, and behavioral wellness. 3.2.4

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

6 Communicate the medical benefits and risks associated with immunizations and other preventative care across the life span. 3.2.6

7 Identify the components of wellness. 3.2.7

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3 **Pharmaceutical Interventions: Prepare, administer, store and document medications, reactions, and outcomes according to laws, regulations and authorized health care provider orders and protocols.** 3.3

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

2 Identify drug classifications. 3.3.2

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

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

5 Store drugs in regard to heat, light, moisture, and security systems. 3.3.5

6 Describe the therapeutic value of the medication being taken and how to evaluate the individual's outcome. 3.3.6

7 List and describe the routes of drug administration with various forms of drugs. 3.3.7

8 Prepare medications as indicated on the prescription or medication order. 3.3.8

9 Reconcile medication, immunization records, and report errors. 3.3.9

10 Calculate medication dosages. 3.3.10

11 Administer and document medications ensuring the correct medication, dosage, route, time, person and method. 3.3.11

12 Communicate the potential side effects and adverse reactions to medical interventions and determine the individual's level of understanding. 3.3.12

13 Identify altered mental states (e.g., hallucinogens, sensory deprivation) and corrective actions. 3.3.13

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

15 Apply standard practices and procedures that prevent contamination of pharmaceutical products. 3.3.15

6 Follow pharmaceutical procedure when filling a syringe, breaking an ampule, reconstituting a sterile powder and injecting liquids. 3.3.16

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17 Select and use vertical laminar flow and biological safety cabinets equipped with HEPA-filters to ensure sterile product mixing and specimen protection. 3.3.17

18 Fill a prescription by calculating the amount of the drug to dispense, identifying the number of days for the supply and documenting the dosage regimen from a medication order. 3.3.18

19 Follow verification processes for handling medications prepared by others and for identifying fraudulent prescriptions. 3.3.19

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4 Emergency Interventions: Identify, activate, and respond to medical, environmental, mechanical, and natural emergencies and document interventions and outcomes. 3.4

1 Perform cardiopulmonary resuscitation (CPR), first-aid and automated external defibrillation (AED). 3.4.1

2 Rescuer Duties, Victim and Rescuer Safety. 3.4.2

3 Recognize and treat breathing problems. 3.4.3

4 Recognize and treat a choking adult. 3.4.4

5 Recognize and treat allergic reactions. 3.4.5

6 Recognize and treat a heart attack. 3.4.6

7 Recognize and treat fainting. 3.4.7

8 Recognize and treat diabetes and hypoglycemia. 3.4.8

9 Recognize and treat stroke. 3.4.9

10 Recognize and treat seizure. 3.4.10

11 Recognize and treat shock. 3.4.11

12 Recognize and treat head, neck, and spine injuries. 3.4.12

13 Recognize and treat fractures and sprains. 3.4.13

14 Recognize and treat burns and electrical injuries. 3.4.14

15 Recognize and treat bites and stings. 3.4.15

16 Recognize and treat heat and cold related injuries 3.4.16

17 Recognize and treat poisoning. 3.4.17

18 Recognize and treat bleeding and bandaging wounds. 3.4.18

19 Document treatments and patient outcomes. 3.4.19

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5 Nutritional Interventions: Identify nutritional needs and communicate information to the individual and support system. 3.5

1 Describe the role and effects of carbohydrates, proteins, fats, electrolytes, minerals, vitamins and water in body systems. 3.5.1

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

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Describe nutritional supplements and ergogenic aids and potential effects. 3.5.3

4. Calculate caloric needs of the individual and refer the individual to nutritional resources for optimal health and performance. 3.5.4
5. Provide diet and hydration guidelines to maintain optimal health. 3.5.5
6. Identify food and drug interactions. 3.5.6
7. Describe types of allergic reactions to foods and food intolerances. 3.5.7
8. Describe regional, cultural, and religious food preferences. 3.5.8
9. Monitor nutritional intake and output. 3.5.9
10. Measure and classify based on anthropometric measurements. 3.5.10

6. **Exercise and Rehabilitative Intervention: Evaluate, define, and perform training, and document therapies to enhance mobility and muscle strength.** 3.6
   1. Complete a comprehensive fitness evaluation. 3.6.1
   2. Evaluate kinesthetic awareness as related to functional movement. 3.6.2
   3. Design and implement an individualized training program by using interval, continuous and circuit training techniques. 3.6.3
   4. Calculate the differences in caloric costs between exercise types. 3.6.4
   5. Apply techniques to enhance neuromuscular flexibility, muscle strength, endurance and flexibility. 3.6.5
   6. Perform active, passive, assistive and resistive Range-of-Motion (ROM) on joints. 3.6.6
   7. Identify aquatic exercises for improvement of ROM, strength, and cardiovascular benefits. 3.6.7
   8. Modify physical activity to accommodate specific medical conditions and stages of development. 3.6.8
   9. Fit ambulatory aids and perform gait training. 3.6.9
   10. Apply protective taping, wrapping, padding and protective equipment to upper and lower extremities. 3.6.10
   11. Describe techniques to disrupt the interpretation of pain. 3.6.11
   12. Apply evidence-based therapeutic interventions (e.g., cryotherapy, thermotherapy, hydrotherapy, light therapy, electrotherapy). 3.6.12
   13. Apply the frequency, intensity, time, type (FITT) principle to health and skill conditioning activities. 3.6.13

7. **Dental Interventions: Assist in the application of dental and oral interventions and document with dental terminology and symbols.** 3.7
   1. Identify dental anatomy, surfaces, and tooth numbering systems. 3.7.1
   2. Explain the relationship between oral health and nutritional factors related to dentistry 3.7.2

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   3. Summarize the uses and effects of substances on the oral cavity and teeth. 3.7.3
   4. Compare and contrast various specialties in dentistry. 3.7.4

5 Identify instruments and supplies used in dental procedures. 3.7.5

6 Identify dental emergencies and assist in treatment. 3.7.6

7 Describe dental pain management. 3.7.7

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

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

10 Describe principles of digital radiography and equipment needed. 3.7.10

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

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

13 Take intraoral and extraoral photographs and radiographs. 3.7.13

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

15 Prepare individuals for dental intervention. 3.7.15

16 Prepare dental materials for placement. 3.7.16

17 Perform dental chair-side assisting techniques. 3.7.17

18 Demonstrate in-office dental laboratory procedures (i.e., pour up models, take impressions/custom trays, make a mouth guard, bleaching tray). 3.7.18

19 Chart conditions of the oral cavity. 3.7.19

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8 **Surgical Interventions: Prepare individuals for surgery and assist in the surgical suite, special case management, and documentation.** 3.8

1 Transport and position the individual for surgery. 3.8.1

2 Apply monitoring equipment. 3.8.2

3 Perform hand scrubbing, gowning, and gloving. 3.8.3

4 Prepare surgical site and drape. 3.8.4

5 Handle surgical instruments with care and safety during cleaning, sterilization and/or disposal. 3.8.5

6 Pass various surgical instruments by type, function, and name during surgical procedures. 3.8.6

7 Pass common supplies and equipment, such as suture material, sponges, dressings, drains, catheters and collection mechanisms. 3.8.7

8 Obtain and secure surgical specimens. 3.8.8

Assistive Care: Learners de[illegible] the skills an[illegible] pr[illegible]

1 **Scope of Practice: Describe the roles and responsibilities of assistive personnel [illegible]nd identify the medical specialists who treat disorders of each body system.** 4.1

Describe the guidelines of the governing body concerning abuse, mistreatment, neglect and misappropriation of an individual's property. 4.1.1

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assistive care for the activities of daily living to a variety of individuals across stages of development within their scope of practice. 4

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

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

4 Describe the primary purpose of different healthcare settings. 4.1.4

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

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2 Therapeutic Communication and Interpersonal Skills: Demonstrate and document communication techniques and behaviors when communicating and interacting with individuals. 4.2

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

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

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

4 Maintain aids that promote oral, auditory, and visual health (e.g., eyeglasses, hearing aids, dentures). 4.2.4

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

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

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

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

9 Demonstrate de-escalation techniques with emotional support. 4.2.9

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

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3 Pathogenic Microorganisms, Infection Control and Infection: Use principles of infection control to prevent the growth and spread of pathogenic microorganisms and infection. 4.3

1 Describe the chain of infection. 4.3.1

2 Describe mechanisms for the spread of infection. 4.3.2

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

4 Identify and use appropriate level of personal protective equipment (PPE) when encountering body fluids, potential of splashing, or respiratory droplets. 4.3.4

5 Demonstrate various decontamination techniques and procedures. 4.3.5

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6 Identify and follow standard precaution guidelines. 4.3.6

7 Identify, follow, and document isolation precautions. 4.3.7

8 Identify signs and symptoms of infection. 4.3.8

4 **Hygiene: Perform personal hygiene for individuals across the life span and document.** 4.4

1 Perform oral and denture care. 4.4.1

2 Perform personal hygiene. 4.4.2

3 Dress and undress individuals in need of assistance. 4.4.3

4 Perform nail care and foot soaks. 4.4.4

5 Observe and report skin condition for abnormalities. 4.4.5

5 **Ambulation and Mobility: Assist in the safe ambulation and mobility of individuals across the life span continuum and document.** 4.5

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

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

3 Operate wheelchairs, Geri Chairs, and lifts. 4.5.3

4 Educate an individual for ambulation with skid-proof footwear, use gait belt and encourage the individual to use assistive devices. 4.5.4

5 Reposition slowly to avoid adverse outcomes. 4.5.5

6 Support the individual to prevent falls or injury. 4.5.6

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

6 **Elimination: Assist with elimination needs across the life span continuum and document.** 4.6

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

2 Measure intake and output. 4.6.2

3 Describe the importance of and develop a toileting schedule to maintain the individual's dignity, prevent falls and decrease skin irritation. 4.6.3

4 Identify signs and symptoms of abnormalities in elimination. 4.6.4

5 Assist with elimination needs. 4.6.5

6 Maintain a closed artificial elimination collection system (e.g., catheter, colostomy, iliaostomy) and monitor, recognize, and report abnormalities. 4.6.6

7 **End-of-Life Care: Provide physical, emotional, and spiritual support to individuals and support systems at end-of-life.** 4.7

1 Describe variations in advanced directives and responsibilities of healthcare providers. 4.7.1

Identify stages of reaction to death and dying. 4.7.2

Describe the purpose of palliative and hospice care. 4.7.3

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4 Provide resources for an individual's cultural, spiritual, and religious needs. 4.7.4

5 Enable individuals to express their feelings and to control their care. 4.7.5

6 Perform postmortem care in compliance with legal guidelines and cultural, spiritual, and religious preferences. 4.7.6

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. 5

1 **Handling, Preparation, Storage and Disposal: Follow standard operating protocols for handling, preparing, storing, and disposing of specimens, supplies and equipment.** 5.1

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

2 Locate and use safety data sheets to prepare and interpret labels for chemicals, supplies, and to identify hazards associated with handling and storing chemical materials. 5.1.2

3 Neutralize acids, bases, or caustic solutions for handling and disposal. 5.1.3

4 Recognize clean room integrity using Standard Operating Procedures (SOPs). 5.1.4

5 Sample, monitor and record the environmental conditions of the facility (e.g., air quality, humidity, temperature, microbial contaminations). 5.1.5

6 Adjust, calibrate, maintain, and perform systems diagnostics on laboratory equipment per standard operating procedure (SOP) and equipment specifications. 5.1.6

7 Maintain equipment logs and determine when to perform, implement, or schedule preventive maintenance and/or systems updates. 5.1.7

8 Verify expiration dates and lot numbers. 5.1.8

9 Implement a chemical inventory system that includes all pertinent information regarding stability, hazards, and sensitivity per standard operating procedure (SOP). 5.1.9

10 Maintain an inventory system for manufactured products per standard operating procedure (SOP). 5.1.10

11 Maintain separate in-processing, quarantine, and release areas. 5.1.11

12 Monitor and maintain animal behavior, welfare, and husbandry per standard operating procedure (SOP). 5.1.12

2 **Foundations of Chemistry: Use standard operating procedure (SOP) when performing systematic and methodical application of general and organic chemistry principles to examine the structures, their functions, their binding to other molecules and the methodologies for their purification and characterization.** 5.2

1 Draw electronic configurations of elements, compounds, and mixtures. 5.2.1

2 Use the periodic table to describe atomic structure and to characterize elements based on the functional group. 5.2.2

Differentiate between organic and inorganic compounds. 5.2.3

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4 Use common and chemical nomenclature for organic and inorganic materials. 5.2.4

5 Write names and formulas for common compounds. 5.2.5

6 Calculate mole, molarity, normality, percent weight per volume (w/v) and percent volume per volume (v/v). 5.2.6

7 Describe the chemical bonding and bond types, including ionic and covalent and the relationships that they have with physical state of materials. 5.2.7

8 Apply the concepts of stoichiometry and the laws of thermodynamics to chemical reactions. 5.2.8

9 Perform spectroscopy of biological materials explaining the principles behind the procedures, the purpose of a blank and determine the concentration of biomolecular samples. 5.2.9

10 Calculate the volume, temperature and pressure of gases using the ideal gas law, Charles Law, Boyles Law and Beer's Law. 5.2.10

11 Balance chemical reactions. 5.2.11

12 Define catalyst and identify materials used as catalysts, including enzymes. 5.2.12

13 Predict endothermic and exothermic characteristics of a chemical reaction. 5.2.13

14 Use naming systems, including common and International Union of Pure and Applied Chemistry (IUPAC) conventions. 5.2.14

15 Describe, use, and calibrate precision weighing and measuring techniques (e.g., analytical balance, micropipette) that are based on the metric system. 5.2.15

16 Calculate errors in measurements based on data acquired using common laboratory equipment. 5.2.16

17 Use standard rules for determining the number of significant figures in measurements and in the answers to corresponding calculations. 5.2.17

18 Convert units of measure from English to metric and vice versa. 5.2.18

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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 when handling and storing specimens and preservatives for biologicals.** 5.3

1 Explain microbial taxonomy and classification systems and use them to identify microbial organisms. 5.3.1

2 Compare and contrast cellular structure and functions of prokaryotic and eukaryotic cells. 5.3.2

3 Differentiate between bacterial metabolism, reproduction, cell structures, and their functions. 5.3.3

4 Identify aerobic bacteria through morphological, physical, and biochemical properties. 5.3.4

Describe the structure of viruses and differentiate between types. 5.3.5

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6 Explain virulence, pathogenicity and the factors that contribute to pathogenicity. 5.3.6

7 Describe types and features of passive and active transport systems. 5.3.7

8 Describe molecular behavior of large molecules, including carbohydrates, lipids, and proteins and nucleotides. 5.3.8

9 Explain how chemical energy operates major cell processes (e.g., biosynthesis, movement, transport, growth). 5.3.9

10 Explain factors that affect and optimize rates of enzyme assay reactions. 5.3.10

11 Perform an enzyme-linked immunosorbent assay (ELISA) and interpret the results. 5.3.11

12 Perform biochemical assays of proteins, lipids, carbohydrates, nucleic acids, and enzymes. 5.3.12

13 Perform an assay for pathogen and susceptibility. 5.3.13

14 Describe the uses and limitations of various lab assays (e.g., HPLC, immunoassay, drainage cell, multi aspect, latex agglutination, spectrophotometry). 5.3.14

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4 Bio-Molecular Technology: Perform molecular and genetic applications using knowledge of nucleic acid structure and function, DNA replication, transcription, translation, chromosome structure and remodeling and regulation of gene expression in prokaryotes and eukaryotes. 5.4

1 Predict and explain offspring genotypes and phenotypes using basic mode of genetics. 5.4.1

2 Identify complex gene expression and transmission patterns. 5.4.2

3 Explain and model the structure of DNA from nucleotide to chromosome. 5.4.3

4 Model the Central Dogma Theory. 5.4.4

5 Describe the processes involved in gene regulation. 5.4.5

6 Identify and isolate peptides and proteins. 5.4.6

7 Summarize the steps in creating a recombinant DNA molecule. 5.4.7

8 Isolate and purify nucleic acids, including chromosomal and extra-chromosomal DNA molecules. 5.4.8

9 Compare nucleic acids and chromosomal DNA molecules using a sequence database. 5.4.9

10 Perform and interpret the results of restriction enzyme digests. 5.4.10

11 Apply concepts of a pedigree. 5.4.11

12 Perform and interpret the results of a polymerase chain reaction to isolate proteins 5.4.12

13 Use electrophoresis to separate nucleic acids and determine molecular weight. 5.4.13

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4 Explain results from the Human Genome project and other sequencing projects and explain how gene sequencing is performed. 5.4.14

15 Perform gene analysis to determine the source of an isolated pathogen. 5.4.15

16 Explain the role of RNA and its role in gene expression. 5.4.16

5 Laboratory Standard Operational Procedures Perform methods and techniques using protocols in order to conduct an experiment. 5.5

1 Follow standard operating procedure (SOP) to aseptically collect and prepare dry and wet samples for analysis. 5.5.1

2 Prepare and dispense stock reagents, buffers, media, and solutions by calculating concentrations, adjusting factors such as pH and selecting purification techniques and containers. 5.5.2

3 Test and maintain the integrity of stains, reagents, chemicals, and mounts. 5.5.3

4 Select and apply sterilization methods for reagents, buffers, media, and solutions. 5.5.4

5 Explain the principles of microscopy and process a specimen for light microscopy. 5.5.5

6 Prepare, incubate, and identify colonies microscopically and macroscopically (e.g., colonial morphology, staining procedures, biochemical). 5.5.6

7 Perform separation techniques, including chemical separations (chromatography), centrifugation, distillation, and filtration and describe their principles and interpret the results. 5.5.7

8 Titrate liquids. 5.5.8

9 Transfer gases, liquids, and solids from storage containers to equipment used in the laboratory. 5.5.9

10 Use aseptic laboratory techniques while working. 5.5.10

11 Perform a chromatography separation of a given mixture of substances. 5.5.11

12 Comply with industry-based and required regulatory quality-assurance practices (e.g., quality control [QC], Good Laboratory Practice [GLP], Good Manufacturing Practice [GMP]) for documentation. 5.5.12

6 Culturing: Perform experimental techniques used in cell biology to study cell growth, manipulation, and evaluation. 5.6

1 Identify the structure of cells and the functions of their components. 5.6.1

2 Explain classification, composition and preparation of culture media and prepare media for propagation. 5.6.2

3 Identify bacteriologic methods necessary for isolation and identification of organisms. 5.6.3

4 Operate basic microbiology and analytical equipment and examine biological specimens. 5.6.4

5 Isolate, propagate, maintain, and harvest pure cell lines following standard operating procedure (SOP). 5.6.5

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6 Verify culture cell lines and determine the cause or causes of culture failures following standard operating procedure (SOP). 5.6.6

7 Explain the collection and handling of fungal, mycobacterial, and viral specimens following standard operating procedure (SOP). 5.6.7

8 Explain Koch's Postulates and their use in determining primary and secondary pathogens. 5.6.8

9 Describe how vectors are used to transform host and microorganisms. 5.6.9

10 Correlate bacterial binary fission with generation time. 5.6.10

11 Describe physical factors that affect microbial growth and identify a normal bacterium population growth curve. 5.6.11

12 Calculate values of cell concentration for both batch and continuous cultivation 5.6.12

13 Identify hormones used to stimulate cell growth. 5.6.13

14 Test for antibiotic susceptibility. 5.6.14

15 Explain how cell cultures can be used to assay viability and cytotoxicity. 5.6.15

16 Demonstrate cryopreservation techniques by freezing and thawing cells. 5.6.16

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7 Fermentation Technology: Describe and perform fermentation procedures. 5.7

1 Maintain, classify, and analyze types and classes of bioreactors and associated materials. 5.7.1

2 Explain the principles and importance of sterility in industrial fermentations. 5.7.2

3 Explain the temperature/pressure relationship of saturated steam to sterilization. 5.7.3

4 Explain the effect of entrapped air on sterilization effectiveness. 5.7.4

5 Compare sterilization methods using dry heat versus moist heat. 5.7.5

6 Demonstrate sterilization by micro-filtration. 5.7.6

7 Explain the effect of suspended solids in fermentation media on sterilization effectiveness. 5.7.7

8 Describe the sources and forms of energy, the relationship between heat and temperature, how heat is transferred and the factors that affect the rates of reaction in processing. 5.7.8

9 Describe the functions and physical properties of simple and complex carbohydrates, lipids and proteins in the fermentation process. 5.7.9

10 Describe the roles of enzymes as catalysts and the factors that affect enzyme activity in the fermentation process. 5.7.10

11 Describe the relationship of oxygen transfer rates to mass transfer. 5.7.11

12 Perform applications using benchtop fermenter and bioreactor systems. 5.7.12

3 Monitor microorganism growth and determine the viability of cells. 5.7.13

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8 **Biotechnology Research and Experiments: Conduct a problem-based study, applying scientific methodology and using descriptive statistics to communicate and support predictions and conclusions.** 5.8

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

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

3 Distinguish between dependent, independent and control variables in an experiment. 5.8.3

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

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

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

7 Document results of the experiment in a laboratory notebook, adhering to professional protocol. 5.8.7

8 Compute measures of central tendency and dispersion to interpret results and draw conclusions. 5.8.8

9 Describe the relationships between variables using correlations and draw conclusions. 5.8.9

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

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

12 Prepare and present findings using scientific reports. 5.8.12

9 **Clinical Laboratory Techniques and Procedures: Perform and interpret clinical laboratory techniques and procedures.** 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, drug screen). 5.9.1

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

3 Differentiate between aseptic and sterile procedures when collecting specimens and maintain bio-hazardous materials procedures (e.g., urine, feces, sputum, blood). 5.9.3

4 Discuss the methods of blood collection, specimen processing and labeling procedures and the potential problems that may occur. 5.9.4

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

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. 5.9.6

7 Identify resources needed for special procedures and demonstrate knowledge of special phlebotomy collection procedures (e.g., phenylketonuria [PKU], galactosemia, blood donations, blood cultures). 5.9.7

8 Differentiate between specimen collection, storage, and handling techniques (e.g., temperature, light, time, humidity). 5.9.8

9 Determine order of draw and appropriate anticoagulants for ordered tests and correlate tube stopper colors with tube additives and their actions. 5.9.9

10 Identify complications of venipuncture (e.g., patient fainting, short draw, inadequate inversion, hemolysis, lack of blood flow, hematoma, petechia, nerve injury, mastectomy issues). 5.9.10

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

12 Determine the general criteria for suitability of a specimen for analysis and reasons for specimen rejection and recollection. 5.9.12

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

14 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.) 5.9.14

15 Perform Clinical Laboratory Improvement Act (CLIA) waived tests (e.g., dipstick or tablet reagent urinalysis, blood glucose by glucose monitoring devices, ovulation tests, urine pregnancy tests). 5.9.15

16 Assist with preparations for non-CLIA waived procedures. 5.9.16

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. 6

1 **Health Information Literacy: Apply principles of systems operations used to capture, retrieve, and maintain information from internal and external sources.** 6.1

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

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

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

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

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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. 6.1.5

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). 6.1.6

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). 6.1.7

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

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

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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.** 6.2

1 Identify components of the legal system. 6.2.1

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. 6.2.2

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. 6.2.3

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

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

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

7 Describe the possible consequences of inappropriate use of health information. 6.2.7

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

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

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

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.** 6.3

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

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

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

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

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

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

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

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

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

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

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

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

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

Behavioral Health: Learners will identify and demonstrate evidence-based behavioral health co int res

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1 **Behavioral Health/Psychopathology: Define different theories used in the study of behavioral health (e.g., cognitive, social, biological, psychoanalytical, humanist, etc.)** 7.1

1 Identify foundational and developmental psychological concepts and theories. (e.g., Maslow, Skinner, Piaget, Rogers, Freud.) 7.1.1

Describe the biopsychosocial basis of individual experiences, behaviors, and social interactions and their influence on behavioral health treatment approaches. 7.1.2

patients in the management of mental wellness and recovery. 7

3 Identify the risk and relationship between medical and psychological behavioral health conditions. 7.1.3

4 Describe individual support systems needed to promote behavioral health and recovery strategies. 7.1.4

5 Differentiate behavioral health conditions, psychiatric symptoms, and their impact on functioning and behavior. 7.1.5

6 Determine the traits, symptoms or conditions of a patient based on deviance, distress, dysfunction, and danger. 7.1.6

7 Assess Adverse Childhood Experiences (ACEs) and influences on current adult behavior. 7.1.7

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2 **Behavioral Health Interventions: Identify and demonstrate research, theories and interventions for communication, collaboration, and care of biopsychosocial interventions.** 7.2

1 Demonstrate how to therapeutically engage individuals with behavioral health conditions. 7.2.1

2 Demonstrate and evaluate the use of therapeutic communication. 7.2.2

3 Assess current behavioral state, incorporating biopsychosocial components of health and well-being. 7.2.3

4 Perform systematic patient behavioral health assessment. 7.2.4

5 Apply criteria for determining diagnosis 7.2.5

6 Apply criteria for determining appropriate modality and level of treatment. 7.2.6

7 Recognize nondirective, collaborative, directive approaches to intervention. 7.2.7

8 Provide individualized care in collaboration with the patient or client. 7.2.8

9 Identify and locate basic components of an empirical research article. 7.2.9

10 Assess the scientific, theoretical, empirical, and contextual basis of interventions 7.2.10

11 Define perception, consciousness, learning, motivation, emotion, stress and general health in relation to behavioral health. 7.2.11

12 Assist clients with learning and practicing appropriate coping skills. 7.2.12

13 Provide assistive care and support to clients with identified psychosocial need. 7.2.13

14 Describe techniques for redirecting maladaptive behavior. 7.2.14

15 Describe the importance of interpersonal relationships and social supports across the life span. 7.2.15

16 Promote independence, self-care, and self-efficacy. 7.2.16

17 Engage an individual in structured social activities and interactions to orient to person, place and time. 7.2.17

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3 **Legal and Ethical Practices in Behavioral Health: Identify principles supporting and informing the ethical codes pertaining to behavioral health workers and direct care providership.** 7.3

1 Describe ethical codes and laws associated with behavioral health workers and direct care providership. 7.3.1

2 Describe legal responsibilities and implications of criminal and civil law. 7.3.2

3 Describe standards for the safety, privacy, and confidentiality of behavioral health information. 7.3.3

4 Identify advance directives. 7.3.4

5 Summarize a patient's rights within a behavioral healthcare setting. 7.3.5

6 Differentiate informed and implied consent. 7.3.6

7 Summarize the scope of practice for behavioral health occupations 7.3.7

8 Describe obligation of reporting activities and behaviors that could potentially affect the health, safety, and welfare of the patient and/or others. 7.3.8

4 **Substance Use Disorder (SUD): Identify the models, theories, and effects of substance use disorder and the associated interventions.** 7.4

1 Compare and contrast effects of substance use disorder on the biopsychosocial and spiritual dimensions of life and functioning. 7.4.1

2 Differentiate substance use disorder from other physical and psychological conditions. 7.4.2

3 Describe theories of counseling and psychotherapy employed in the treatment of substance use disorders. 7.4.3

4 Describe the effects of addictive processes on group therapy and the effects of individual diversity of group process across the lifespan. 7.4.4

5 Demonstrate techniques used in the treatment of substance abuse and dependence. 7.4.5

6 Describe the types of testing instruments used in the treatment of behavioral health disorders 7.4.6

7 Describe historical and contemporary use of evidence-based practice in the treatment of substance use disorder. 7.4.7

8 Implement procedures and strategies for relapse prevention. 7.4.8

9 Recognize assessment procedures and diagnosis of substance use disorder. 7.4.9

10 Perform administration of naloxone in an overdose situation. 7.4.10

11 Analyze the pharmacology of both drugs of abuse and those used in detoxification and the treatment of substance use and other behavioral disorders. 7.4.11

12 Describe models of evidence-based prevention of substance use, abuse, and dependence and associated risk factors. 7.4.12

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13 Interpret models of treatment planning; adapting treatment strategies to individual needs and characteristics with other medical and psychological conditions. 7.4.13

14 Develop treatment planning for relapse prevention. 7.4.14

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5 **Crisis Intervention & Trauma-Informed Care: Identify, Assess and Differentiate crisis, emergency, crisis intervention, emergency intervention, suicide prevention and suicide intervention.** 7.5

1 Define crisis theory, crisis intervention, and psychotherapy. 7.5.1

2 Differentiate between different types of behavioral trauma (type I, type II, acute, chronic, complex, and secondary.) 7.5.2

3 Recognize normative and traumatic stressors. 7.5.3

4 Identify the biopsychosocial side effects of medications. 7.5.4

5 Differentiate evidence-based crisis and emergency interventions. 7.5.5

6 Implement evidence-based prevention and intervention strategies used with various groups by age, gender, ethnicity, sexual orientation, religion, and ability. 7.5.6

7 Assess suicide risk or risk of violence, and protective factors. 7.5.7