

Course Outline

Health Science and Medical Technology

REVISED: August/2017

Job Title:

Physical Therapy Aide

76-45-50

Career Pathway:

Patient Care

Physical Therapy

Industry Sector:

Health Science and Medical Technology

Credits: 15

Hours: 180

O*NET-SOC CODE:

31-2022.00

Course Description:

This competency-based course prepares students to provide basic physical therapy treatment in health care facilities. This course offers instruction in employability skills, workplace safety and infection control, ethical and legal standards, interpersonal skills, and medical terminology. It presents an overview of selected anatomy and physiology systems as well as the disorders and drugs for those bodily systems. Instruction and practice are provided in the assessment of vital signs, body mechanics, treatment methods, therapeutic and rehabilitative exercises, and mobility training. Skills laboratory and clinical observations are also included in the training. The competencies in this course are aligned with the California High School Academic Content Standards and the California Career Technical Education Model Curriculum Standards.

CBEDS Title:

Healthcare Occupations

Prerequisites:

Enrollment requires evidence of good health and a tuberculosis screening. Student must have a reading level of 6.0 as measured by the TABE D 9/10 test. Completion of a Biology or Medical Terminology class is highly recommended.

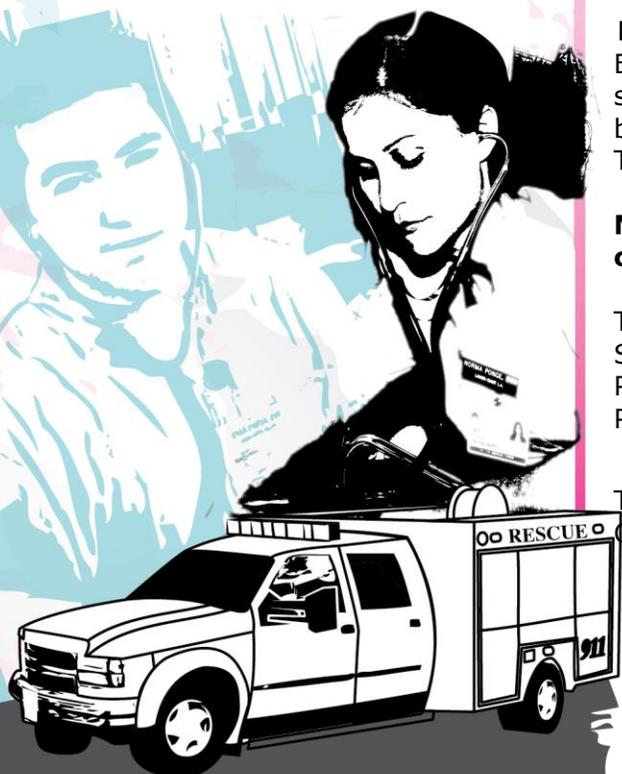
NOTE: For Perkins purposes this course has been designated as a **concentrator/capstone** course.

THE STUDENT MUST PRESENT A CURRENT CERTIFICATE SHOWING COMPLETION OF AN AHA OR BLS HEALTHCARE PROVIDERS CARDIOPULMONARY RESUSCITATION (CPR) CLASS PRIOR TO CLINICAL ROTATION.

This course cannot be repeated once a student receives a Certificate of Completion.

CBEDS No.:

4257



COURSE OUTLINE COMPETENCY-BASED COMPONENTS

A course outline reflects the essential intent and content of the course described. Acceptable course outlines have six components. (Education Code Section 52506). Course outlines for all apportionment classes, including those in jails, state hospitals, and convalescent hospitals, contain the six required elements:

(EC 52504; 5CCR 10508 [b]; Adult Education Handbook for California [1977], Section 100)

COURSE OUTLINE COMPONENTS

LOCATION

GOALS AND PURPOSES

Cover

The educational goals or purposes of every course are clearly stated and the class periods are devoted to instruction. The course should be broad enough in scope and should have sufficient educational worth to justify the expenditure of public funds.

The goals and purpose of a course are stated in the COURSE DESCRIPTION. Course descriptions state the major emphasis and content of a course, and are written to be understandable by a prospective student.

PERFORMANCE OBJECTIVES OR COMPETENCIES

pp. 7-21

Objectives should be delineated and described in terms of measurable results for the student and include the possible ways in which the objectives contribute to the student's acquisition of skills and competencies.

Performance Objectives are sequentially listed in the COMPETENCY-BASED COMPONENTS section of the course outline. Competency Areas are units of instruction based on related competencies. Competency Statements are competency area goals that together define the framework and purpose of a course. Competencies fall on a continuum between goals and performance objectives and denote the outcome of instruction.

Competency-based instruction tells a student before instruction what skills or knowledge they will demonstrate after instruction. Competency-based education provides instruction which enables each student to attain individual goals as measured against pre-stated standards.

Competency-based instruction provides immediate and continual repetition and In competency-based education the curriculum, instruction, and assessment share common characteristics based on clearly stated competencies. Curriculum, instruction and assessment in competency-based education are: explicit, known, agreed upon, integrated, performance oriented, and adaptive.

COURSE OUTLINE COMPETENCY-BASED COMPONENTS
(continued)

COURSE OUTLINE COMPONENTS	LOCATION
<p>INSTRUCTIONAL STRATEGIES</p> <p>Instructional techniques or methods could include laboratory techniques, lecture method, small-group discussion, grouping plans, and other strategies used in the classroom.</p> <p>Instructional strategies for this course are listed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructional strategies and activities for a course should be selected so that the overall teaching approach takes into account the instructional standards of a particular program, i.e., English as a Second Language, Programs for Adults with Disabilities.</p>	p. 23
<p>UNITS OF STUDY, WITH APPROXIMATE HOURS ALLOTTED FOR EACH UNIT</p> <p>The approximate time devoted to each instructional unit within the course, as well as the total hours for the course, is indicated. The time in class is consistent with the needs of the student, and the length of the class should be that it ensures the student will learn at an optimum level.</p> <p>Units of study, with approximate hours allotted for each unit are listed in the COMPETENCY AREA STATEMENT(S) of the course outline. The total hours of the course, including work-based learning hours (community classroom and cooperative vocational education) is listed on the cover of every CBE course outline. Each Competency Area listed within a CBE outline is assigned hours of instruction per unit.</p>	Cover pp. 7-21
<p>EVALUATION PROCEDURES</p> <p>The evaluation describes measurable evaluation criteria clearly within the reach of the student. The evaluation indicates anticipated improvement in performances as well as anticipated skills and competencies to be achieved.</p> <p>Evaluation procedures are detailed in the TEACHING STRATEGIES AND EVALUATION section of the course outline. Instructors monitor students' progress on a continuing basis, assessing students on attainment of objectives identified in the course outline through a variety of formal and informal tests (applied performance procedures, observations, and simulations), paper and pencil exams, and standardized tests.</p>	pp. 23-24
<p>REPETITION POLICY THAT PREVENTS PERPETUATION OF STUDENT ENROLLMENT</p> <p>After a student has completed all the objectives of the course, he or she should not be allowed to reenroll in the course. There is, therefore, a need for a statement about the conditions for possible repetition of a course to prevent perpetuation of students in a particular program for an indefinite period of time.</p>	Cover

ACKNOWLEDGMENTS

Thanks to AARON SAENZ for developing and editing this curriculum. Acknowledgment is also given to ERICA ROSARIO for designing the original artwork for the course covers.

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**CALIFORNIA CAREER TECHNICAL EDUCATION MODEL CURRICULUM STANDARDS Health
Science and Medical Technology Industry Sector
Knowledge and Performance Anchor Standards**

1.0 Academics

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the Health Science and Medical Technology academic alignment matrix for identification of standards.

2.0 Communications

Acquire and accurately use Health Science and Medical Technology sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management

Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0 Technology

Use existing and emerging technology to investigate, research, and produce products and services, including new information, as required in the Health Science and Medical Technology sector workplace environment.

5.0 Problem Solving and Critical Thinking

Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the Health Science and Medical Technology sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

6.0 Health and Safety

Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the Health Science and Medical Technology sector workplace environment.

7.0 Responsibility and Flexibility

Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the Health Science and Medical Technology sector workplace environment and community settings.

8.0 Ethics and Legal Responsibilities

Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

9.0 Leadership and Teamwork

Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution as practiced in the Cal-HOSA career technical student organization.

10.0 Technical Knowledge and Skills

Apply essential technical knowledge and skills common to all pathways in the Health Science and Medical Technology sector, following procedures when carrying out experiments or performing technical tasks.

11.0 Demonstration and Application

Demonstrate and apply the knowledge and skills contained in the Health Science and Medical Technology anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings and through the Cal-HOSA career technical student organization.

Health Science and Medical Technology Pathway Standards

B. Patient Care Pathway

The standards for the Patient Care pathway apply to occupations or functions involved in the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions. The standards specify the knowledge and skills needed by professional and technical personnel pursuing careers in this pathway.

Sample occupations associated with this pathway:

- ◆ Kinesiotherapist
- ◆ Nurse Anesthetist
- ◆ Respiratory Therapist
- ◆ Radiologic Technician
- ◆ Dental Hygienist

- B1.0 Recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment
- B2.0 Understand the basic structure and function of the human body and relate normal function to common disorders.
- B3.0 Know how to apply mathematical computations used in health care delivery system.
- B4.0 Recognize and practice components of an intake assessment relevant to patient care.
- B5.0 Know the definition, spelling, pronunciation, and use of appropriate terminology in the health care setting.
- B6.0 Communicate procedures and goals to patients using various communication strategies to respond to questions and concerns.
- B7.0 Apply observation techniques to detect changes in the health status of patients.
- B8.0 Demonstrate the principles of body mechanics as they apply to the positioning, transferring, and transporting of patients.
- B9.0 Implement wellness strategies for the prevention of injury and disease behaviors that prevent injury and illness
- B10.0 Comply with protocols and preventative health practices necessary to maintain a safe
- B11.0 Comply with hazardous waste disposal policies and procedures, including documentation, to ensure that regulated waste is handled, packaged, stored, and disposed of in accordance with federal, state, and local regulations.
- B12.0 Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning
- B13.0 Research factors that define cultural differences between and among different ethnic, racial, and cultural groups and special populations.

CBE
Competency-Based Education

COMPETENCY-BASED COMPONENTS
for the Physical Therapy Course

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>A. ORIENTATION AND SAFETY</p> <p>Understand, apply, and evaluate the course requirements, the role of the physical therapy aide, and recognize the importance of a safe environment.</p>	<ol style="list-style-type: none"> 1. State classroom policy regarding attendance, punctuality, assignments, and grades. 2. Describe the evaluation methods for theory, skills lab, and clinical practice. 3. Describe personal grooming requirements in the classroom and the workplace. 4. State uniform requirements in the classroom and the workplace. 5. Describe the History and Evolution of Physical Therapy. 6. Describe the duties of each member of the rehabilitation team. 7. Describe the role of allied health area professionals: Occupational Therapists, Athletic Trainers, Exercise Physiologists, Kinesiotherapists /Kinesiologists and Chiropractors. 8. Describe the duties of the physical therapy aide (P.T. Aide). 9. Describe the differences between a P.T. Aide and a P. T. Assistant. 10. List the supervisors of the P.T. Aide. 11. Describe the employment opportunities for the P.T. Aide in the following situations: <ol style="list-style-type: none"> a. home health agency b. nursing home c. hospital d. fitness center/ health club e. community centers f. orthopedic clinic/office g. neurology h. physiatry i. chiropractic clinics/office j. aquatics k. opportunities for advancement 12. List the positive attributes/qualities needed by a P.T. Aide. 13. Describe career ladder opportunities for physical therapy professions. 14. Describe various job opportunities upon course completion. 15. List the general rules of the Occupational Safety and Health Administration (CalOSHA) as they pertain to the physical therapy field. 16. List the general rules of the Centers for Disease Control (CDC) as they pertain to the physical therapy field. 	<p>Career Ready Practice: 1, 2, 3, 5, 6, 7, 8, 11, 12</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.3, 2.8 Career Planning and Management: 3.2, 3.4 Technology: 4.5 Problem Solving and Critical Thinking: 5.4, 5.6 Health and Safety: 6.2, 6.3, 6.5, 6.6, 6.8 Responsibility and Flexibility: 7.2, 7.8 Ethics and Legal Responsibilities: 8.2 Technical Knowledge and Skills: 10.1, 10.2</p> <p>CTE Pathway: B2.3, B9.1, B10.1, B10.2, B10.3, B10.4, B10.5, B11.1, B11.2, B12.1, B12.2, B12.3, B12.4</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(5 hours)	<ol style="list-style-type: none"> 17. List the following codes as they pertain to the physical therapy field: <ol style="list-style-type: none"> a. state codes b. city codes c. local hospital codes 18. Describe earthquake plans adopted by local schools and health care facilities. 19. Describe electrical and fire safety. 20. List patient identification methods. 21. Explain precautions taken to prevent injuries by sharp objects. 22. Identify two routes of disease transmission. 23. Describe two natural defenses against infection. 24. Describe the standard precautions that protect the health care worker from infection: <ol style="list-style-type: none"> a. while cleaning b. after exposure to bodily fluids/blood/mucous membranes 25. Describe the Human Immunodeficiency Virus (HIV) transmission routes. 26. Describe Hepatitis B and its transmission routes. 27. Explain the purpose of hand washing. 28. Describe and demonstrate various hand cleaning agents. 29. Describe the use of clean gloves. 30. Describe and demonstrate donning and removing clean gloves. 31. Describe the proper disposal of contaminated items through: <ol style="list-style-type: none"> a. biohazard bags b. sharps containers c. Isolation precautions 32. Describe Blood-Borne Pathogens. 33. Pass the safety test with 100% accuracy. 	
<p>B. MATHEMATICS FOR THE PHYSICAL THERAPY AIDE</p> <p>Understand, apply, and evaluate the mathematical requirements for a Physical Therapy Aide.</p>	<ol style="list-style-type: none"> 1. Explain the practical applications of math for physical therapy aides. 2. Describe and demonstrate problem-solving techniques involving whole number problems using arithmetic operations (addition, subtraction, multiplication, and division). 3. Describe and demonstrate problem-solving techniques involving various fraction problems using arithmetic operations. 4. Describe and demonstrate problem-solving techniques involving various decimal problems using addition, subtraction, multiplication, and division. 5. Describe and demonstrate techniques for changing fractions to decimals. 6. Describe and demonstrate techniques for changing decimals to fractions. 7. Describe the English and metric systems of measuring length. 8. Describe the English and metric systems of measuring weight. 	<p>Career Ready Practice: 1, 5</p> <p>CTE Anchor: Problem Solving and Critical Thinking: 5.5</p> <p>CTE Pathway: B3.1, B12.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(4 hours)	<ol style="list-style-type: none"> 9. Describe the English and metric systems of measuring volume or capacity. 10. Describe and demonstrate English and metric problem-solving techniques for various measuring problems using arithmetic operations. 11. Describe and demonstrate English and metric measuring techniques of objects by using tools common to the trade. 12. Express metric units in ascending and descending powers of ten. 13. Convert the English numbering system to metric system. 14. Convert metric system to English numbering system. 15. Describe and demonstrate problem-solving techniques for geometric problems. 16. Describe and demonstrate problem-solving techniques for algebraic problems. 17. Describe and demonstrate problem-solving techniques using percentages. 18. Describe and demonstrate techniques for using a calculator. 	
<p>C. FIRST AID AND CPR</p> <p>Understand, apply, and evaluate first aid and CPR procedures as they relate to patients and therapists.</p>	<ol style="list-style-type: none"> 1. State the purpose of the emergency medical system (EMS). 2. Describe the following within the EMS: <ol style="list-style-type: none"> a. procedures b. caregiver roles c. Good Samaritan Law 3. Describe the four key aspects of preparing for an emergency response. 4. Describe and demonstrate first aid and temporary care for the following conditions: <ol style="list-style-type: none"> a. sprains b. strains c. bleeding d. abrasions/lacerations e. fractures f. dislocations 5. List the most common/frequent injuries in athletics. 6. Describe the signs and symptoms of shock. 7. Identify the signs, symptoms, and treatment methods of the following: <ol style="list-style-type: none"> a. musculoskeletal injuries b. soft tissue injuries c. head injuries d. spine injuries e. chest injuries f. abdominal injuries g. pelvic injuries h. poison emergencies 	<p>Career Ready Practice: 1, 5, 6</p> <p>CTE Anchor: Health and Safety: 6.5 Technical Knowledge and Skills: 10.1, 10.5 Demonstration and Application: 11.2</p> <p>CTE Pathway: B8.5, B9.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(5 hours)	<ul style="list-style-type: none"> i. heat emergencies j. cold emergencies k. extreme injuries <ul style="list-style-type: none"> 8. Describe the proper use of the Automatic External Defibrillator (AED). 9. List the components of a Cardiopulmonary Resuscitation (CPR) course. 10. Pass a CPR test as offered by a nationally recognized governing body, i.e.: American Red Cross, American Heart Association, National Safety Council. 	
<p>D. ETHICAL AND LEGAL STANDARDS</p> <p>Understand basic ethical situations and legal issues in physical therapy.</p> <p>(2 hours)</p>	<ul style="list-style-type: none"> 1. Define the following: <ul style="list-style-type: none"> a. morals b. moral norms c. ethics d. personal integrity e. confidentiality f. informed consent 2. Describe and demonstrate ethical behavior that is consistent with the physical therapy workplace. 3. Describe the ethical aspects of new and emerging technologies for the physical therapy aide. 4. Describe the importance of confidentiality. 5. Describe informed consent. 6. Describe the Patient’s Bill of Rights and the Health Insurance Portability and Accountability Act (HIPAA) of 1996. 7. Describe “tipping” and other gratuities. 8. Describe the following legal situations and their consequences: <ul style="list-style-type: none"> a. negligence b. malpractice c. assault d. battery e. libel f. slander g. child abuse h. adult abuse i. elder abuse j. inaccurate medical documentation 9. State the importance of professional demeanor during client treatments. 	<p>Career Ready Practice: 1, 7, 8</p> <p>CTE Anchor: Ethics and Legal Responsibilities: 8.3, 8.7 Technical Knowledge and Skills: 10.1, 10.2</p> <p>CTE Pathway: B12.4</p>
<p>E. INTERPERSONAL SKILLS</p> <p>Understand the principles of effective communication and how they affect interpersonal relationships.</p>	<ul style="list-style-type: none"> 1. Define communication. 2. Describe the following stages of the communication process: <ul style="list-style-type: none"> a. sending/source: <ul style="list-style-type: none"> i. reason for sending the message ii. content of the message b. message c. encoding: 	<p>Career Ready Practice: 1, 2</p> <p>CTE Anchor: Communications: 2.1, 2.2</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(2 hours)	<ul style="list-style-type: none"> i. avoid cultural issues ii. eliminate mistaken assumptions iii. fill in missing information d. channel: <ul style="list-style-type: none"> i. face-to-face meetings ii. telephone and videoconferencing iii. written channels including letters, emails, memos and reports e. decoding - the time to read a message carefully or listen actively to it f. receiving g. feedback - verbal and nonverbal reactions to the communicated message h. context: <ul style="list-style-type: none"> i. the surrounding environment ii. the broader culture (corporate culture, international cultures, etc.) 3. Define and describe the impact of the following on interpersonal relationships in the workplace: <ul style="list-style-type: none"> a. verbal communication b. nonverbal communication c. empathy d. tact e. telephone etiquette 4. Describe the positive or negative effects of the following forms of nonverbal communication: <ul style="list-style-type: none"> a. facial expressions b. touch c. gestures d. tone of voice e. silence f. eye contact 5. Describe the following barriers to communication: <ul style="list-style-type: none"> a. culture b. language c. physical or mental disability 6. Describe the emotional and psychological factors that accompany injuries and surgery. 7. Describe the proper methods of dealing with difficult patients. 8. Describe the proper procedures to follow when a patient refuses treatment. 9. Describe the proper methods of dealing with patients who are hard of hearing or unable to speak. 	<p>CTE Pathway: B6.1, B6.4, B12.1, B13.1, B13.6</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>F. MEDICAL TERMINOLOGY</p> <p>Understand and apply basic medical terms.</p> <p>(5 hours)</p>	<ol style="list-style-type: none"> 1. Define the following: <ol style="list-style-type: none"> a. root words b. prefixes c. suffixes d. abbreviations 2. State the following: <ol style="list-style-type: none"> a. origin of common medical terms b. pronunciation rules for medical terms c. spelling rules for medical terms d. pluralization rules for medical terms e. common medical abbreviations and symbols 3. Demonstrate the following: <ol style="list-style-type: none"> a. spelling, meaning, and pronunciation of at least 30 root words b. spelling, meaning and pronunciation of at least 20 prefixes c. written combination of at least 30 root words and 20 prefixes d. written combination of at least 30 root words and 20 suffixes e. written combination of at least 25 root words, 30 prefixes, and 50 suffixes f. pronunciation and definition of all the examples in c, d, and e 4. Pass an examination on spelling, defining, and analyzing medical terms using roots, prefixes, and suffixes. 5. List the major body systems. 6. List at least 50 key medical terms of common medical diseases and disorders related to each body system. 7. Describe the components of the medical chart. 8. Describe the following aspects of documentation: <ol style="list-style-type: none"> a. charting b. subjective, objective, assessment, plan (SOAP) note c. error recognition and correction 	<p>Career Ready Practice: 1, 2</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.7, 2.8</p> <p>CTE Pathway: B2.1, B2.3, B3.5, B5.2, B5.3, B5.5, B5.6, B5.7, B12.1</p>
<p>G. ANATOMY AND PHYSIOLOGY OF SELECTED SYSTEMS</p> <p>Understand and evaluate basic anatomy and physiology as it pertains to physical therapy.</p>	<ol style="list-style-type: none"> 1. Describe the functions of the skeletal system. 2. Describe the axial and appendicular skeleton. 3. Identify the bones of each skeletal division. 4. Identify the three major types of joints and give one example of each. 5. Define the following: <ol style="list-style-type: none"> a. flexion b. extension c. abduction d. adduction e. circumduction f. rotation g. supination 	<p>Career Ready Practice: 1</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.8 Technical Knowledge and Skills: 10.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
	<ul style="list-style-type: none"> h. pronation i. protraction j. retraction k. inversion l. eversion <ol style="list-style-type: none"> 6. List the four functions of the muscular system. 7. Identify the three types of muscles. 8. Describe muscle action and movement. 9. List the general function of the nervous system. 10. Describe the structure and function of the brain. 11. List the spinal and cranial nerves. 12. Describe the two divisions of the autonomic nervous system: <ul style="list-style-type: none"> a. the sympathetic b. the parasympathetic 13. Describe common nerve injuries. 14. List the functions of the cardiovascular system. 15. Describe the interrelationship of the cardiovascular system with the other systems of the body. 16. Describe the signs, symptoms, and pathomechanics of common breathing problems (asthma, bronchitis, etc). 17. List the characteristics of blood. 18. List the function of the following types of blood cells: <ul style="list-style-type: none"> a. erythrocytes b. leukocytes c. thrombocytes 19. Describe the general structure of the heart. 20. Identify and describe the function of each of the following: <ul style="list-style-type: none"> a. heart layers b. heart chambers c. valves d. septum e. the blood vessels entering the heart f. the blood vessels leaving the heart 21. Trace the circulation of the blood through the heart and lungs by using a chart. 22. List the characteristics and function of each of the following: <ul style="list-style-type: none"> a. arteries b. veins c. capillaries 23. Describe the characteristics of the nose. 24. Describe the function of the nose in relation to the respiratory tract. 25. Describe the pharynx. 26. Differentiate between the following parts of the pharynx: <ul style="list-style-type: none"> a. nasopharynx b. oropharynx c. laryngopharynx 27. List two functions of the pharynx. 	<p>CTE Pathway: B2.1, B8.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(20 hours)	28. Locate and define the tonsils. 29. Locate and define the adenoids. 30. Identify the epiglottis. 31. Describe the function of the epiglottis. 32. Describe the structure of the trachea. 33. Describe the function of the trachea. 34. Describe the protective mechanism of the trachea. 35. Describe the structure and function of the bronchi/bronchioles. 36. Explain what is meant by the “bronchial tree.” 37. Describe the alveoli pulmonis. 38. Describe the exchange of oxygen and carbon dioxide in the alveoli pulmonis. 39. List the characteristics of the lungs. 40. Describe the mechanism of breathing.	
H. DISORDERS OF SELECTED BODY SYSTEMS Understand the physical therapy needs of various medical/surgical disorders.	1. Define and describe the causes of, and treatment for, the following medical/surgical disorders and/or conditions: a. arthroplasty and total joint replacement b. total hip and total knee replacement c. amputation d. rheumatoid arthritis e. osteoarthritis f. rheumatoid g. fibromyalgia h. lower back pain i. seizure disorders j. cerebral vascular accident(CVA) k. Parkinson’s disease l. multiple sclerosis m. myasthenia gravis n. spinal cord injury o. head injury p. stroke q. quadriplegia r. paraplegia s. hemiplegia t. sprains/strains u. muscular dystrophy v. common knee surgeries (ACL, Meniscus, etc.) 2. Describe the application of elastic bandages to various parts of the body. 3. Describe the application of splints to various parts of the body. 4. Describe the emotional impact following a client’s surgery. 5. Describe wound care and physical therapy.	Career Ready Practice: 1 CTE Anchor: Academics: 1.0 Communications: 2.8 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.3
(5 hours)		

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>I. DRUG USE</p> <p>Understand and evaluate selected drugs, their dosage, therapeutic effects, and possible side effects.</p> <p>(5 hours)</p>	<ol style="list-style-type: none"> 1. List pharmaceutical abbreviations. 2. Describe the following units: <ol style="list-style-type: none"> a. metric b. apothecary c. household 3. List drug dosage forms. 4. Identify the normal dosage for two drugs in each of the following central nervous system drug categories: <ol style="list-style-type: none"> a. sedative/hypnotics b. barbiturates c. narcotic/non-narcotic analgesic d. anti-anxiety e. anti-depressant 5. Compare the therapeutic effects with the expected side effects for two drugs in each central nervous system drug category: <ol style="list-style-type: none"> a. sedative/hypnotics b. barbiturates c. narcotic/non-narcotic analgesic d. anti-anxiety e. anti-depressant 6. Identify the normal dosage for two drugs in each musculoskeletal system drug category: <ol style="list-style-type: none"> a. muscle relaxant b. anti-inflammatory 7. Compare the therapeutic effects with the expected side effects for two drugs in each musculoskeletal system drug category: <ol style="list-style-type: none"> a. muscle relaxant b. anti-inflammatory 8. Identify the usual dosage for two drugs in each cardiovascular system drug category: <ol style="list-style-type: none"> a. anti-anginal b. anti-hypertensive c. anti-coagulant 9. Compare the therapeutic effects with the expected side effects for two drugs in each cardiovascular system drug category: <ol style="list-style-type: none"> a. anti-anginal b. anti-hypertensive c. anti-coagulant 10. Describe drug and alcohol abuse. 11. Compare the therapeutic effects with the expected side effects for over-the-counter (OTC) medications. 	<p>Career Ready Practice: 1, 2, 5</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.8 Problem Solving and Critical Thinking: 5.5 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: B1.2, B3.12, B3.4, B12.1</p>
<p>J. ASSESSMENT OF VITAL SIGNS</p> <p>Understand the methods and equipment required for measuring temperature, pulse, and respiration.</p>	<ol style="list-style-type: none"> 1. Describe how vital signs are measured. 2. Describe the care, maintenance, and storage of the instruments used to measure vital signs. 3. Identify three sites used to obtain body temperature. 4. Describe the factors which would cause a temperature to rise. 	<p>Career Ready Practice: 1, 2, 5</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(5 hours)	<ol style="list-style-type: none"> 5. Describe the procedure for measuring the oral body temperature. 6. Describe the procedure for measuring the axillary body temperature. 7. List three factors that influence pulse rate. 8. Identify six sites used to measure pulse rate. 9. List the normal pulse rate for a child and an adult. 10. Describe the procedure for counting the pulse rate. 11. Describe the following: <ol style="list-style-type: none"> a. respiratory rate b. respiratory depth c. respiratory danger signs 12. State the normal respiration rate for a child and an adult. 13. Describe the procedure for counting respiration. 14. Identify the danger signs for the following: <ol style="list-style-type: none"> a. temperature b. pulse c. respiration d. blood pressure 15. Describe the following in the observation of the patient: <ol style="list-style-type: none"> a. objective symptoms b. subjective symptoms 16. Describe documentation of objective and subjective symptoms. 17. Describe P.T. Aide's role in reporting adverse vital signs symptom. 	<p>CTE Anchor: Communications: 2.3 Technical Knowledge and Skills: 10.1, 10.2</p> <p>CTE Pathway: B2.3, B2.4, B4.3, B4.4, B12.1</p>
<p>K. BODY MECHANICS</p> <p>Understand the basic principles of body mechanics.</p> <p>(5 hours)</p>	<ol style="list-style-type: none"> 1. List and describe three basic principles of body mechanics. 2. Describe the body mechanics principles used in the following manipulations: <ol style="list-style-type: none"> a. positioning b. lifting c. dangling d. holding e. transferring to a wheel chair f. transferring to a gurney g. pushing h. pulling i. pivoting 3. Explain the reasons for using supportive devices for maintaining patient position. 4. Describe and emphasize the P.T. Aide's role in avoiding self-injuries. 	<p>Career Ready Practice: 1, 2, 7</p> <p>CTE Anchor: Health and Safety: 6.2, 6.4, 6.6, 6.8 Responsibility and Flexibility: 7.2 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: B8.1, B8.2, B12.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>L. TREATMENT METHODS</p> <p>Understand various treatment methods.</p>	<ol style="list-style-type: none"> 1. Describe the indications/contraindications for: <ol style="list-style-type: none"> a. ice massage/ice/vapocoolants b. massage c. ultrasound d. whirlpool e. aqua-therapy f. heat-hot packs g. infrared h. paraffin i. electrical stimulation j. traction-pelvic k. traction-cervical l. light therapy m. laser therapy n. phonophoresis o. iontophoresis 2. Identify the equipment and set-up procedures needed for: <ol style="list-style-type: none"> a. ice massage/ice/vapocoolants b. massage c. ultrasound d. aqua-therapy e. whirlpool f. aqua-therapy g. heat-hot packs h. infrared i. paraffin j. electrical stimulation k. traction-pelvic l. traction-cervical m. light therapy n. laser therapy o. phonophoresis p. iontophoresis 3. Describe the procedures and safety factors for: <ol style="list-style-type: none"> a. ice massage/ice/vapocoolants b. massage c. ultrasound d. whirlpool e. aqua-therapy f. heat-hot packs g. infrared h. paraffin i. electrical stimulation j. traction-pelvic k. traction-cervical 	<p>Career Ready Practice: 1, 6</p> <p>CTE Anchor: Health and Safety: 6.3, 6.8 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: B12.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(10 hours)	<ul style="list-style-type: none"> l. light therapy m. laser therapy n. phonophoresis p. iontophoresis <p>4. Describe the care, maintenance, and storage of the equipment used for various treatment methods.</p>	
<p>M. THERAPEUTIC EXERCISES</p> <p>Understand the methods needed to measure and maintain muscle tone.</p> <p>(5 hours)</p>	<ul style="list-style-type: none"> 1. State the purpose of exercise. 2. List the goals of individualized therapeutic exercise. 3. Describe measuring muscle strength. 4. Describe the grading scale used after measurement. 5. Describe measuring range of motion (ROM). 6. Describe neurological tests. 7. Describe orientation to determine mental status. 8. Describe the forms of exercise including: <ul style="list-style-type: none"> a. active range of motion b. passive range of motion c. progressive resistance exercise d. isometric exercise e. isotonic exercise f. progressive resistive exercise g. isokinetic exercise h. balance exercises i. skill/coordination exercise 9. State the P.T. Aide's role in therapeutic exercise. 10. State the P.T. Aide's role in explaining at-home exercises. 11. Describe the role and benefits of water-based rehabilitation exercises. 12. Describe cardiovascular exercises: <ul style="list-style-type: none"> a. indications b. contraindications c. precautions 13. Describe strengthening and conditioning exercises. 	<p>Career Ready Practice: 1, 2</p> <p>CTE Anchor: Responsibility and Flexibility: 7.2 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: B8.1, B12.1</p>
<p>N. REHABILITATIVE EXERCISES</p> <p>Understand the methods, range-of-motion exercises, and guarding techniques for patient exercise.</p>	<ul style="list-style-type: none"> 1. State the purpose of active and passive range-of-motion exercise. 2. Describe the procedures for active and passive range-of-motion exercise. 3. Describe the equipment needed for active and passive range-of-motion exercise. 4. Describe the use, care, and maintenance of the equipment needed for active and passive range-of-motion exercise. 5. Identify the documentation of active and passive range-of-motion exercise. 6. State the two goals of guarding techniques. 	<p>Career Ready Practice: 1, 2</p> <p>CTE Anchor: Health and Safety: 6.2, 6.6 Responsibility and Flexibility: 7.2 Technical Knowledge and Skills: 10.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(3.5 hours)	<ol style="list-style-type: none"> 7. Describe the P.T. Aide position: <ol style="list-style-type: none"> a. when guarding the patient on level ground b. when transferring c. on stairs 8. Describe a gait belt and its use. 9. Explain the importance of the following safety factors: <ol style="list-style-type: none"> a. good lighting b. flooring that is dry flooring c. flooring cleared of obstructions d. patient wearing non-skid shoes 10. Describe controlling patient falls through and by the P.T. Aide support. 11. Describe patient protection by the P.T. Aide when a fall is unavoidable. 12. State the value of conversation during exercise treatments. 	<p>CTE Pathway: B8.1, B12.1</p>
<p>O. MOBILITY TRAINING</p> <p>Understand the various methods of transfer and ambulation techniques.</p> <p>(3.5 hours)</p>	<ol style="list-style-type: none"> 1. Describe the standing transfers: <ol style="list-style-type: none"> a. unassisted from bed to wheelchair b. assisted from bed to wheelchair c. assisted from wheelchair to parallel bars d. assisted from wheelchair to table e. modified standing transfer f. toilet transfer g. car transfer 2. Describe the sitting transfers: <ol style="list-style-type: none"> a. bathtub b. unassisted from bed to wheelchair c. assisted from bed to wheelchair 3. Describe the supine transfers: <ol style="list-style-type: none"> a. drawsheet use b. pneumatic lift c. floor to wheelchair 4. Describe the ambulation methods: <ol style="list-style-type: none"> a. parallel bars b. walker c. crutch training including gaits and stair use d. cane use 5. Describe gait training for: <ol style="list-style-type: none"> a. normal gait cycle b. coxalgic/painful hip c. painful knee d. painful ankle e. painful foot f. sacroiliac pain g. flexed hip h. hemiplegic gait 	<p>Career Ready Practice: 1, 2</p> <p>CTE Anchor: Health and Safety: 6.2 Technical Knowledge and Skills: 10.1</p> <p>CTE Pathway: B8.1, B12.1</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
<p>P. SKILLS LABORATORY</p> <p>Apply the basic principles of patient care through practice of various techniques.</p> <p>(60 hours)</p>	<ol style="list-style-type: none"> 1. Demonstrate documentation on the patient record using medical terms, symbols, and abbreviations. 2. Demonstrate the basic positions of body mechanics. 3. Demonstrate patient transfer using correct body alignment. 4. Demonstrate patient ambulation techniques using correct body alignment. 5. Demonstrate proper hand washing techniques. 6. Demonstrate donning and removing gloves. 7. Demonstrate measurement of a radial pulse. 8. Demonstrate counting respiration. 9. Demonstrate measurement of blood pressure in the following positions: <ol style="list-style-type: none"> a. lying b. sitting c. standing 10. Document vital signs on the medical record. 11. Demonstrate documentation of objective and subjective symptoms on the medical record. 12. Demonstrate measuring muscle strength. 13. Demonstrate using the grading scale after measurement. 14. Demonstrate the following: <ol style="list-style-type: none"> a. active range of motion b. passive range of motion c. progressive resistance exercise d. skill/coordination exercise e. proper adjustment and usage of assistive devices f. therapeutic spinal massage: (cervical, thoracic, lumbar) g. proper transfer techniques h. proper guarding techniques 	<p>Career Ready Practice: 1, 6, 10</p> <p>CTE Anchor: Academics: 1.0 Communications: 2.4, 2.5, 2.8 Problem Solving and Critical Thinking: 5.4, 5.5 Health and Safety: 6.2, 6.4, 6.6 Ethics and Legal Responsibilities: 8.3 Technical Knowledge and Skills: 10.2 Demonstration and Application: 11.1</p> <p>CTE Pathway: B3.1, B4.3, B7.1, B7.3, B7.4, B8.2, B8.5, B10.4, B10.5</p>
<p>Q. CLINICAL PROTOCOL</p> <p>Understand the physical therapy treatments and procedures used in the health care facility.</p>	<ol style="list-style-type: none"> 1. Demonstrate professional grooming and uniform compliance in the health care facility. 2. Observe the equipment needed and the safety factors for: <ol style="list-style-type: none"> a. ice massage/ice/vapocoolants b. massage c. ultrasound d. whirlpool e. heat-hot packs f. infrared g. paraffin h. electrical stimulation i. traction-pelvic j. traction-cervical k. light therapy l. laser therapy m. phonophoresis n. iontophoresis 	<p>Career Ready Practice: 1, 2, 7, 10</p> <p>CTE Anchor: Responsibility and Flexibility: 7.7 Technical Knowledge and Skills: 10.1, 10.2 Demonstration and Application: 11.1</p> <p>CTE Pathway: B8.5</p>

COMPETENCY AREAS AND STATEMENTS	MINIMAL COMPETENCIES	STANDARDS
(30 hours)	<ol style="list-style-type: none"> 3. Observe an active range-of-motion exercise. 4. Observe a passive range-of-motion exercise. 5. State the P.T. Aide position: <ol style="list-style-type: none"> a. when guarding the patient on level ground b. when transferring c. on stairs 6. Describe a gait belt. 7. Observe gait belt use. 	
<p>R. EMPLOYABILITY SKILLS</p> <p>Understand, apply, and evaluate the employability skills required in the medical assisting field.</p> <p>(5 hours)</p>	<ol style="list-style-type: none"> 1. Describe employer requirements for the following: <ol style="list-style-type: none"> a. punctuality b. attendance c. attitude toward work d. quality of work e. teamwork f. timeliness g. communication skills h. computer skills and software applications 2. Identify potential employers through traditional and internet sources. 3. Describe the role of electronic social networking in job search. 4. Design sample résumés and cover letters. 5. Describe the importance of filling out a job application legibly, with accurate and complete information. 6. Complete sample job application forms correctly. 7. Describe the importance of enthusiasm on a job. 8. Describe the importance of appropriate appearance on a job. 9. Describe the importance of the continuous upgrading of job skills. 10. Describe customer service as a method of building permanent relationships between the organization and the customer. 11. Describe and demonstrate appropriate interviewing techniques. 12. Identify the informational materials and resources needed to be successful in an interview. 13. Design sample follow-up letters. 14. Describe and demonstrate appropriate follow-up procedures. 	<p>Career Ready Practice: 1, 2, 3, 4, 5, 7, 8, 10</p> <p>CTE Anchor: Career Planning and Management: 3.3, 3.8, 3.9 Technology: 4.1 Responsibility and Flexibility: 7.2, 7.4, 7.7 Ethics and Legal Responsibilities: 8.3, 8.4 Leadership and Teamwork: 9.1, 9.2, 9.3 Technical Knowledge and Skills: 10.3 Demonstration and Application: 11.1</p> <p>CTE Pathway: B6.3, B12.1, B12.2, B12.4</p>

SUGGESTED INSTRUCTIONAL MATERIALS and OTHER RESOURCES

TEXTBOOKS

Baechle, Thomas R. and Roger W. Earle. Essentials of Strength and Conditioning, 3rd Edition. Human Kinetics Publishing, 2008.

Behrens, Barbara J., and Michlovitz, Susan, L. Physical Agents Theory and Practice for the Physical Therapist Assistant, 2nd Edition. F.A. Davis Company, 2006.

Chabner, Davi E. Medical Terminology a Short course, 6th Edition. Elsevier Inc., 2012.

Magee Ph.D., David J. Orthopedic Physical Assessment. W. B. Saunders Co., 1997.

Taber, Clarence. Taber's Cyclopedic Medical Dictionary. F.A Davis Company, 2003.

Weiss, Roberta C. Physical Therapy Aide: A Work Text, 3rd Edition. Delmar Publishers Inc., 2008.

RESOURCES

Teacher prepared slides, films, transparencies, and instructional packages.

Employer Advisory Board members

Foundation Standards

<http://www.cde.ca.gov/ci/ct/sf/documents/ctstandards.pdf>

<http://www.cde.ca.gov/be/st/ss/documents/ctstandards.doc>

The Society of Sports Therapists <http://www.society-of-sports-therapists.org/>

American Physical Therapy Association <http://www.apta.org/>

COMPETENCY CHECKLIST

TEACHING STRATEGIES and EVALUATION

METHODS AND PROCEDURES

- A. Lecture and discussion
- B. Demonstration/participation
- C. Field trips
- D. Multi-sensory presentation

EVALUATION

SECTION A – Orientation and Safety – Pass the safety test with 100% accuracy.

SECTION B – Mathematics for the Physical Therapy Aide – Pass all assignments and exams on mathematics for the physical therapy aide with a minimum score of 80% or higher.

SECTION C – First Aid and CPR – Pass all assignments and exams on first aid and CPR with a minimum score of 80% or higher.

SECTION D – Ethical and Legal Standards – Pass all assignments and exams on ethical and legal standards with a minimum score of 80% or higher.

SECTION E – Interpersonal Skills – Pass all assignments and exams on interpersonal skills with a minimum score of 80% or higher.

SECTION F – Medical Terminology – Pass all assignments and exams on medical terminology with a minimum score of 80% or higher.

SECTION G – Anatomy and Physiology of Selected Systems – Pass all assignments and exams on anatomy and physiology of selected systems with a minimum score of 80% or higher.

SECTION H – Disorders of Selected Body Systems – Pass all assignments and exams on disorders of selected body systems with a minimum score of 80% or higher.

SECTION I – Drug Use– Pass all assignments and exams on drug use with a minimum score of 80% or higher.

SECTION J – Assessment of Vital Signs – Pass all assignments and exams on assessment of vital signs with a minimum score of 80% or higher.

SECTION K – Body Mechanics – Pass all assignments and exams on body mechanics with a minimum score of 80% or higher.

SECTION L – Treatment Methods – Pass all assignments and exams on treatment methods with a minimum score of 80% or higher.

SECTION M – Therapeutic Exercises – Pass all assignments and exams on therapeutic exercises with a minimum score of 80% or higher.

SECTION N –Rehabilitative Exercises – Pass all assignments and exams on rehabilitative exercises with a minimum score of 80% or higher.

SECTION O –Mobility Training – Pass all assignments and exams on mobility training with a minimum score of 80% or higher.

SECTION P – Skills Laboratory – Pass all assignments and exams on skills laboratory with a minimum score of 80% or higher.

SECTION Q – Clinical Protocol – Pass all assignments and exams on clinical protocol with a minimum score of 80% or higher.

SECTION R –Employability Skills – Pass all assignments and exams on employability skills with a minimum score of 80% or higher.

Statement for Civil Rights

All educational and vocational opportunities are offered without regard to race, color, national origin, gender, or physical disability.
