

LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS

SPECIAL NOTE:

This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.

TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):

Please check with the LCC bookstore, <http://www.labette.edu/bookstore>, for the required texts for this class.

<u>COURSE NUMBER:</u>	PTA 104
<u>COURSE TITLE:</u>	THERAPEUTIC EXERCISE
<u>SEMESTER CREDIT HOURS:</u>	3
<u>DEPARTMENT:</u>	Health Science
<u>DIVISION:</u>	Career Technical Education
<u>PREREQUISITE:</u>	Admission to the PTA Program
<u>REVISION DATE:</u>	10/2018

Class schedule: Class- Mon 10:30-12:00, Wed 1:30-3:00, Lab- Mon 12:45-2:45

COURSE DESCRIPTION:

This course is designed to introduce the concepts of therapeutic exercise used in the clinical setting. It focuses on specific areas of the body as well as diagnostic categories. Cardiopulmonary physical therapy is also covered in this course.

COURSE OUTCOMES AND COMPETENCIES:

Students who successfully complete this course will be able to:

1. Discuss the foundational concepts of therapeutic exercise, prevention, health and wellness.
 - Define therapeutic exercise.
 - Define key terms associated with physical function.
 - Discuss types of therapeutic exercise intervention
 - Discuss exercise safety.
 - Discuss various aspects of clinical decision making.
 - Discuss the patient management model.
 - Identify factors to consider when preparing for exercise instruction.
 - Discuss issues related to exercise adherence.
 - Identify health risk factors.
 - List indications to determine readiness for change.

- Discuss how to develop and implement a program.
- Discuss the relationship between exercise and osteoporosis.
- List the considerations for developing prevention, health and wellness programs.
- Identify the types of range of motion (ROM) exercises.
- Discuss the limitations of ROM exercises.
- List the indications and contraindications to ROM exercises.
- Discuss the principles and procedures for applying ROM techniques.
- Demonstrate, on a simulated patient passive, active assistive and active ROM exercises for various joints.
- Instruct a simulated patient in self-assisted ROM exercises,
- Discuss the use of continuous passive motion.
- Set up a CPM unit on a simulated patient with a TKA.
- Demonstrate the use of functional patterning.
- Defines terms related to mobility and stretching.
- Discuss the properties of soft tissue response to immobilization and stretch.
- Discuss the determinants, types and effects of stretching interventions.
- List the procedural guidelines for the application of stretching interventions.
- List the precautions for stretching.
- List and discuss adjuncts to stretching interventions.
- Demonstrate manual stretching techniques in anatomical planes of motion for the upper and lower extremities as well as the spine.

2. Discuss various aspects of peripheral joint mobilization.

- Define the terms associated with peripheral joint mobilization.
- List the indications and for joint mobilization.
- Discuss the limitations of joint mobilization.
- List contraindications and precautions for joint mobilization.
- Demonstrate competence in performing joint mobilization for grades I and II for any given peripheral joint.

3. Discuss various aspects and principles of exercise for impaired muscle performance, aerobic exercise, impaired balance and aquatic exercise.

- Define terms associated with resistive exercise.
- Discuss the guiding principles of resistive exercise.
- Discuss skeletal muscle function and adaptation to resistance exercise.
- Discuss and define the determinants of resistance exercise.
- List and define the types of resistance exercise.
- Discuss the general principles of resistance training.
- List the contraindications and precautions to resistance exercise.
- Define and discuss the use of manual resistance exercise.
- Demonstrate manual resistance exercises for the upper and lower extremities as well as the spine.
- Discuss various techniques of mechanical resistive exercise.

- Demonstrate various mechanical resistive exercises for the upper and lower extremities as well as the spine.
- Discuss selected resistance training regimes.
- Discuss and identify various equipment used for resistance training.
- Define and discuss key terms and concepts associated with aerobic exercise.
- Discuss the physiological response to aerobic exercise.
- Discuss testing as a basis for exercise programs.
- List and define the determinants of an exercise program.
- Discuss and demonstrate an aerobic exercise program.
- Discuss the physiological changes that occur with training.
- Discuss the application of principles of an aerobic conditioning program for the patient with coronary disease.
- Discuss the application of aerobic training for the deconditioned individual and the patient with chronic illness.
- Discuss aerobic exercise for different age groups.
- Discuss the background and concepts of balance control.
- Define and discuss impaired balance.
- Discuss the management of impaired balance.
- Develop a multisensory balance exercise program and instruct it to a simulated patient.
- Define aquatic exercise.
- List the goals and indications for aquatic exercise.
- List precautions and contraindications to aquatic exercise.
- Identify and discuss the use of special equipment used for aquatic exercise.
- Identify exercise interventions using an aquatic environment including stretching strengthening and aerobic conditioning.

<p>4. Describe the cardiovascular and pulmonary systems and the implications for physical therapy.</p>
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- Describe the anatomy of the thorax, respiratory system, cardiovascular system, cardiopulmonary vessels and systemic circulation.
- Differentiate between ventilation and respiration.
- Describe the physiology of the cardiovascular system.
- List the major determinants of myocardial blood flow.
- Discuss various aspects of atherosclerosis, hypertension, cerebrovascular disease and peripheral artery disease.
- Identify and demonstrate exercises for peripheral artery disease.
- Discuss renal artery disease and aortic aneurysm.
- List causes and types of cardiac muscle dysfunction.
- Discuss cardiac muscle pathophysiology.
- Discuss specific pathophysiologic conditions associated with congestive heart failure.
- Identify the clinical manifestations of congestive heart failure.
- Discuss medical, mechanical and surgical management of congestive heart failure.

- Identify and demonstrate physical therapy interventions for cardiac muscle dysfunctions and failure.
- Discuss and demonstrate ventilator muscle training, energy conservation and self-management techniques.
- Instruct a simulated patient in a program for cardiac muscle dysfunction and failure.
- Discuss the etiology and pathogenesis and clinical manifestations of restrictive lung dysfunction.
- Discuss treatment of restrictive lung dysfunction.
- Describe lung function in obstructive lung diseases.
- Instruct a simulated patient with COPD in an exercise program to include breathing and coughing techniques.
- Discuss obesity, diabetes mellitus, chronic kidney disease/failure and their cardiopulmonary implications.
- Discuss cardiopulmonary toxicity of cancer treatment.
- Discuss clinical laboratory studies, noninvasive diagnostic tests, imaging modalities, exercise testing, pharmacologic stress testing, catheterization, angiography and vascular testing procedures..
- Discuss chest imaging for pulmonary disorders.
- Discuss the use of bronchoscopy.
- Describe pulmonary function testing.
- Discuss blood gas analysis.
- Discuss and demonstrate the use of oximetry.
- List and discuss cardiovascular and thoracic surgical procedures.
- Discuss the use of pacemakers and implantable cardioverter defibrillators.
- Discuss the use of a drainage tube.
- Discuss various monitoring equipment.
- List and identify physical therapy indications and contraindications when working with clients who are on monitoring equipment.
- Identify and discuss various medications used with persons having cardiac and/or pulmonary diseases and the implications for physical therapy.
- Discuss and demonstrate various airway clearance techniques.
- Discuss and demonstrate breathing strategies, positioning and facilitation.
- Describe and demonstrate various types of breathing exercises.
- Describe and demonstrate exercise for acute cardiopulmonary conditions.
- Discuss the primary prevention of cardiovascular disease.
- Discuss rehabilitation of patients with documented cardiovascular disease.
- List general precautions and the relative contraindications to continuing exercise.
- Discuss post acute rehabilitation and candidacy for cardiac rehabilitation.
- Describe home-based cardiac rehabilitation.
- Describe rehabilitation/secondary prevention in the outpatient setting.
- Discuss and describe secondary prevention: management of risk factors.
- Describe administrative considerations for the outpatient setting.
- Describe the structure of the pulmonary rehabilitation program.
- Describe and demonstrate treatment interventions used in pulmonary rehabilitation.

- Define and discuss physical conditioning.
- Instruct a simulated patient in pulmonary exercises and activities.
- Describe respiratory system development.
- Describe cardiac development.
- Discuss congenital heart defects.
- Discuss respiratory conditions of infancy.
- List and describe pediatric conditions with secondary cardiopulmonary issues.
- List and describe pediatric conditions with decreased activity levels.
- Discuss and demonstrate physical therapy interventions for pediatric cardiopulmonary issues.
- Performs patient positioning for postural drainage of any given lung segment.

5. Discuss various aspects of vascular disorders of the extremities.

- List and discuss disorders of the arterial system.
- List and discuss disorders of the venous system.
- List and discuss disorders of the lymphatic system.
- Discuss breast cancer-related lymphatic dysfunction.
- Discuss and demonstrate exercises for the management of lymphedema.
- Instruct a simulated patient in exercises for the management of lymphedema.