

SES-2380: CORRECTIVE EXERCISE TRAINING

Cuyahoga Community College

Viewing: SES-2380 : Corrective Exercise Training

Board of Trustees:

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Academic Term:

Fall 2023

Subject Code

SES - Sport and Exercise Studies

Course Number:

2380

Title:

Corrective Exercise Training

Catalog Description:

Introduces the health and fitness professional to corrective exercise training. Includes topics of human movement science, human movement impairments, assessments for human movement dysfunction and program design. Students will learn corrective exercise techniques and a training system that uses corrective exercise strategies to help improve muscle imbalances, movement capabilities, and help decrease the risk of injury.

Credit Hour(s):

3

Lecture Hour(s):

2

Lab Hour(s):

2

Requisites

Prerequisite and Corequisite

SES-1040 Teaching Exercise Training Techniques, or departmental approval.

Outcomes

Course Outcome(s):

Explain the concepts of corrective exercise training related to human movement science and human movement impairments.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

- a. Explain functional anatomy as it relates to corrective exercise training.
 - b. Explain the concepts of functional multiplanar biomechanics.
 - c. Discuss the concepts of motor learning and motor control and the relationship to corrective exercise training.
 - d. Discuss the importance that proper posture has on movement.
 - e. Discuss functional and dysfunctional movement patterns.
 - f. Explain common causes for movement dysfunction.
 - g. Discuss common movement system dysfunctions and potential causes for each.
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Course Outcome(s):

Apply concepts of exercise training when using health risk appraisals and static and movement assessments for analyzing human movement dysfunction.

Objective(s):

- a. Identify the components of a health risk appraisal.
- b. Explain the function of a health risk appraisal.
- c. Demonstrate how to ask appropriate and medical questions to gather subjective information from clients.
- d. Recognize potential issues that may need to be considered when designing a corrective exercise program.
- e. Define the function of a static postural assessment.
- f. Describe the kinetic chain implications for static postural alignment.
- g. Discuss the avenues through which static postural alignment may alter over time.
- h. Discuss the implications for existing postural distortions.
 - i. Demonstrate how to perform a static postural assessment.
 - j. Explain the rationale for performing movement assessments.
- k. Discuss the difference between static, transitional, and movement assessments.
 - l. Determine potential muscle imbalances based on certain movement compensations.
- m. Identify the importance of achieving optimal range of motion in human movement.
- n. Discuss how a goniometer and inclinometer can be used to measure joint range of motion.
- o. Demonstrate the ability to measure joint range of motion at the ankle, knee, hip, spine, and shoulder joints.
- p. Explain how optimal range of motion at these joints correlates to various movement assessments.
- q. Discuss the rationale for the use of manual muscle testing in an integrated assessment process.
 - r. Demonstrate proper execution of manual muscle tests on select muscle groups.
- s. Interpret the findings seen in select manual muscle tests.

Course Outcome(s):

Utilize self-myofascial/inhibitory release techniques, stretching/range of motion techniques, and activation and integration techniques for corrective exercise training.

Objective(s):

- a. Define inhibitory techniques and self-myofascial release.
- b. Explain the rationale for the use of self-myofascial release techniques.
- c. Demonstrate self-myofascial release techniques using various equipment in inhibiting overactive myofascial tissue.
- d. Define stretching, flexibility, and range of motion.
- e. Identify the various methods for stretching and enhancing muscular and connective tissue.
- f. Describe the scientific rationale supporting the use of stretching and range of motion techniques in a comprehensive corrective exercise program.
- g. Demonstrate stretching techniques to improve range of motion and inhibit overactive, tight structures as part of a comprehensive corrective exercise program.
- h. Define activation and integration techniques.
 - i. Discuss the precautions and contraindications for both activation and integration techniques.
 - j. Design a corrective exercise strategy using activation and integration techniques in conjunction with inhibitory and flexibility/range of motion techniques.

Course Outcome(s):

Apply knowledge of the concepts of corrective exercise training to develop corrective exercise strategies and design a corrective exercise program.

Objective(s):

- a. Describe functional anatomy for the foot and ankle complex.
- b. Determine risk factors and mechanisms that can lead to foot and ankle injury.
- c. Design and incorporate a systematic assessment and corrective exercise strategy for foot and ankle impairments.
- d. Describe functional anatomy for the knee complex.
- e. Determine risk factors and mechanisms that can lead to knee injuries.
- f. Design and incorporate a systematic assessment and corrective exercise strategy for knee impairments.

- g. Describe functional anatomy for the lumbo-pelvic-hip complex.
- h. Determine risk factors and mechanisms that can lead to common lumbo-pelvic-hip complex injuries.
 - i. Design and incorporate a systematic assessment and corrective exercise strategy for lumbo-pelvic-hip complex impairments.
- j. Describe functional anatomy for the shoulder, elbow and wrist,
- k. Determine risk factors and mechanisms that can lead to common shoulder, elbow, and wrist injuries.
 - l. Design and incorporate a systematic assessment and corrective exercise strategy for shoulder, elbow, and wrist impairments.
- m. Describe functional anatomy for the shoulder, elbow and wrist,
- n. Determine risk factors and mechanisms that can lead to common shoulder, elbow, and wrist injuries.
 - o. Design and incorporate a systematic assessment and corrective exercise strategy for shoulder, elbow, and wrist impairments.
- p. Describe functional anatomy for the cervical spine.
- q. Determine risk factors and mechanisms that can lead to common cervical spine injuries.
 - r. Design and incorporate a systematic assessment and corrective exercise strategy for cervical spine impairments.
- s. Develop a comprehensive corrective exercise strategy program based on a client's goals, needs, health risk appraisal, and assessment results.
- t. Demonstrate how to conduct a corrective exercise consultation.
- u. Demonstrate how to effectively communicate assessment outcomes to clients.
- v. Demonstrate how to structure a corrective exercise session.
- w. Explain how to progress and/or regress corrective exercises based on a client's ability and performance goals.
- x. Design a corrective exercise analysis project based on a case study or a real-life scenario.

Methods of Evaluation:

- a. Laboratory assignments
- b. Case study assignments
- c. Skills competency checklist
- d. Quizzes
- e. Written examinations
- f. Corrective exercise training analysis project

Course Content Outline:

- a. Introduction to corrective exercise training
 - i. Rationale for corrective exercise
 - ii. Introduction to human movement science and biomechanics
 - iii. Evidence-based approach to understanding human movement impairments
- b. Assessing human movement dysfunction
 - i. Health risk appraisal
 - ii. Static postural assessment
 - iii. Movement assessments
 - iv. Range of motion assessments
 - v. Strength assessments
- c. Corrective exercise continuum
 - i. Inhibitory techniques and self-myofascial release
 - ii. Lengthening techniques
 - iii. Activation and integration techniques
- d. Corrective exercise exercises and techniques
 - i. Foot and ankle impairments
 - ii. Knee impairments
 - iii. Lumbo-pelvic-hip complex impairments
 - iv. Shoulder, elbow, and wrist impairments
 - v. Cervical spine impairments
- e. Corrective exercise program design strategies
 - i. Foot and ankle impairments
 - ii. Knee impairments
 - iii. Lumbo-pelvic-hip complex impairments
 - iv. Shoulder, elbow, and wrist impairments

- v. Cervical spine impairments
- vi. Integrated corrective exercise program
- f. Corrective exercise training analysis project

Resources

Price, J. (2019) *The biomechanics method for corrective exercise with online video*, Champaign: Human Kinetics.

National Academy of Sports Medicine. (2021) *Essentials of corrective exercise training, 2nd ed.*, Burlington: Jones and Bartlett.

Abrahamson, E. & Langston, J. (2019) *Muscle testing: A concise manual*, London: Handspring Publishing.

Lederman, E. (2022) *Functional exercise prescription: Supporting rehabilitation in movement and sport*, London: Handspring Publishing.

Elgelid, S. & Kresge, C. (2021) *The Feldenkrais Method: Learning through movement*, London: Handspring Publishing.

Richey, B. (2021) *Back exercise: Stabilize, mobilize, and reduce pain*, Champaign: Human Kinetics.
