

# SES-1040: TEACHING EXERCISE TRAINING TECHNIQUES

## Cuyahoga Community College

**Viewing: SES-1040 : Teaching Exercise Training Techniques**

**Board of Trustees:**

May 2023

**Academic Term:**

Fall 2023

**Subject Code**

SES - Sport and Exercise Studies

**Course Number:**

1040

**Title:**

Teaching Exercise Training Techniques

**Catalog Description:**

Instruction on how to teach basic principles, concepts, and techniques of exercise. Components include cardiovascular, resistance, functional and flexibility exercises and activities with proper instructional exercise techniques, guidelines, safety, injury prevention, and basic exercise programming. Practice teaching exercise techniques to classmates, PE or recreation classes, or other out of class experiences may be required.

**Credit Hour(s):**

3

**Lecture Hour(s):**

2

**Lab Hour(s):**

2

## Requisites

**Prerequisite and Corequisite**

PE-1000 Personal Fitness or concurrent enrollment; or PE-1010 Personal Strength Development or concurrent enrollment; or PE-1020 Weight Training or concurrent enrollment; or departmental approval

## Outcomes

**Course Outcome(s):**

Apply the principles and concepts of cardiovascular fitness to clients and demonstrate and instruct on related exercise techniques and safety precautions.

**Objective(s):**

- a. Define aerobic and anaerobic fitness.
- b. Supervise a cardiovascular training workout.
- c. Describe the benefits of cardiovascular training.
- d. Explain the cardiovascular training guidelines to improve health and fitness for apparently healthy individuals.
- e. Explain the concepts of overload, specificity, and progression as they relate to cardiovascular training.
- f. Explain general cardiovascular participation guidelines related to warm-up, cool-down, hydration, clothing, footwear, and breathing.
- g. Describe the various types of cardiovascular training programs including interval, continuous, long-slow distance, fartlek, pace/tempo, circuit, cross-training, and arm exercises.
- h. Describe exercises designed to enhance aerobic and anaerobic cardiovascular fitness.
- i. Demonstrate skill in the use of various methods for establishing and monitoring levels of exercise intensity, including percent of age-predicted maximum heart-rate, heart-rate reserve (Karvonen), rating of perceived exertion (RPE), metabolic equivalent (METs) and watts.
- j. Explain the basic exercise techniques to properly perform, demonstrate, and teach common cardiovascular training exercises and activities.

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**Course Outcome(s):**

Apply the principles and concepts of resistance and functional training to clients and demonstrate and instruct on related exercise techniques and safety precautions.

**Objective(s):**

- a. Define resistance training, muscular endurance, muscular strength, and muscular power.
- b. Describe the benefits of resistance training.
- c. Explain the resistance training guidelines to improve health and fitness for apparently healthy individuals.
- d. Explain the concepts of overload, specificity, and progression as they relate to resistance training.
- e. Explain general resistance training participation guidelines related to hand-grip, starting positions, breathing, and weight-belt recommendations.
- f. Describe resistance training classifications including power, core, assistance, isometric, isotonic, isokinetic, close and open chain exercises.
- g. Describe the following types of resistance training: workouts: single set, multiple set, power, core, assistance, push-pull, alternate upper-lower body, compound sets, supersets, negatives, and pyramids.
- h. Describe the advantages and disadvantages of free weights, machines, body weight, resistance tubing, and stability balls to improve muscular fitness.
- i. Discuss the relationship between the number of repetitions, sets, intensity, volume, and rest period with regard to muscular endurance, strength, and power.
- j. Discuss steps for safe and proper placement of resistance training equipment.
- k. Demonstrate how to safely and effectively spot resistance training exercises.
- l. Supervise a resistance training workout.
- m. Define functional training.
- n. Compare and contrast resistance and functional training.
- o. Discuss the benefits of functional training.
- p. Discuss the basic types of functional training exercises.
- q. Explain the techniques to properly perform, demonstrate and teach basic functional training exercises and activities.
- r. Supervise a functional training workout.

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**Course Outcome(s):**

Apply the principles and concepts of flexibility to clients and demonstrate and instruct on safe and effective exercises to improve and enhance flexibility.

**Objective(s):**

- a. Explain the techniques to properly perform, demonstrate, and teach common resistance training exercises.
- b. Describe the benefits of flexibility training.
- c. Identify range of motion for major joints in the human body.
- d. Identify the factors that affect flexibility.
- e. Explain the value of warming up before participating in flexibility training.
- f. List and explain the various types of flexibility training.
- g. Explain the basic techniques to properly perform, demonstrate, and teach common flexibility exercises.
- h. Identify common flexibility exercise technique errors and contraindicated exercises.
- i. Supervise a flexibility training workout.

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**Methods of Evaluation:**

- a. Competency skills test
- b. Written assignments
- c. Internet assignments
- d. Instructional teaching assignments
- e. Practical skills evaluation
- f. Outside class assignment
- g. Written examination

**Course Content Outline:**

- a. Overview of teaching exercise training techniques course
- b. Cardiovascular training
  - i. Definition
  - ii. Aerobic and anaerobic
  - iii. Benefits
- c. Overview of resistance training
  - i. Definition
  - ii. Muscular endurance, hypertrophy, strength, power
  - iii. Benefits
- d. Overview of functional training
  - i. Definition
  - ii. Benefits
- e. Overview of flexibility training
  - i. Definition
  - ii. Types
  - iii. Benefits
- f. Guidelines for cardiovascular activity participation
  - i. Pre-exercise screening
  - ii. Hydration
  - iii. Clothing
  - iv. Warm-up
  - v. Cool-down
  - vi. Exercise frequency
  - vii. Exercise intensity
  - viii. Exercise duration
  - ix. Breathing
- g. Cardiovascular machine exercise technique
  - i. Treadmill
  - ii. Stair climber
  - iii. Elliptical trainer
  - iv. Stationary bicycles
  - v. Semi-recumbent bicycles
  - vi. Rowing machines
- h. Cardiovascular non-machine exercise technique
  - i. Walking
  - ii. Running
  - iii. Swimming
  - iv. Additional exercises
- i. Group exercise class
- j. General principles of cardiovascular training
  - i. American College of Sports Medicine training guidelines
  - ii. Overload
  - iii. Specificity
  - iv. Exercise frequency
  - v. Exercise intensity
    - 1. Heart-rate method maximum (HRmax)
    - 2. Heart rate reserve (HRR)
    - 3. Metabolic equivalents (METs)
    - 4. Watts
    - 5. Talk test
  - vi. Rating of perceived exertion (RPE)
  - vii. Exercise duration
  - viii. Exercise type/mode
- k. Types of cardiovascular training
  - i. Continuous/long, slow distance
  - ii. Fartleks
  - iii. Intervals

- iv. Pace/tempo
- v. Circuit
- vi. Cross
- vii. Arm exercise
- l. Introduction to resistance and functional training
  - i. Definition of resistance training
  - ii. Definition of functional training
  - iii. Compare and contrast resistance and functional training
- m. Guidelines for resistance and functional training participation
  - i. Pre-exercise screening
  - ii. Hand grip types and widths
  - iii. Starting and contact positions
  - iv. Breathing considerations
  - v. Weightlifting belt recommendations
- n. Types of resistance and functional training modalities
  - i. Machines
  - ii. Free weights
    - 1. Barbells
    - 2. Dumbbells
  - iii. Body weight
  - iv. Resistance tubing
  - v. Physioball
  - vi. Medicine balls
  - vii. Kettlebells
  - viii. Additional equipment
- o. Resistance and functional training classification
  - i. Stability
  - ii. Strength
  - iii. Power
  - iv. Compound/multi-joint
  - v. Assistance/single-joint
  - vi. Isometric
  - vii. Isotonic
  - viii. Isokinetic
  - ix. Closed chain
  - x. Open chain
- p. Resistance and functional training exercise technique
  - i. Abdominal/trunk/core exercises
  - ii. Back/trunk/core exercises
  - iii. Chest exercises
  - iv. Shoulder exercises
  - v. Arm exercises
    - 1. Biceps
    - 2. Triceps
    - 3. Forearms and wrists
  - vi. Hip and thigh exercises
  - vii. Functional exercises
  - viii. Power exercises
- q. Spotting resistance training exercises
  - i. Free weights
    - 1. Barbell exercises
    - 2. Dumbbell exercises
  - ii. Machines
- r. General principles of resistance and functional training
  - i. American College of Sports Medicine training guidelines
  - ii. National Strength and Conditioning Association guidelines
  - iii. Other professional organization guidelines
  - iv. Specificity

- v. Overload
- vi. Exercise choice/selection
- vii. Exercise frequency
- viii. Exercise order
- ix. Loads
  - x. Repetitions and sets
- xi. Rest periods
- xii. Variation
- xiii. Progression
- s. Types of resistance and functional training
  - i. Single set
  - ii. Multiple set
  - iii. Power-core-assistance
  - iv. Push and pull
    - v. Alternate upper and lower body
  - vi. Compound sets
  - vii. Supersets
  - viii. Negatives
  - ix. Pyramids
    - x. Movement patterning
- t. Flexibility training guidelines
  - i. American College of Sports Medicine (ACSM)
  - ii. American Council on Exercise (ACE)
  - iii. National Strength and Conditioning Association (NSCA)
  - iv. Other professional organization guidelines
- u. Types of flexibility training
  - i. Static stretching
  - ii. Active stretching
  - iii. Passive stretching
  - iv. Ballistic stretching
    - v. Proprioceptive neuromuscular facilitation (PNF)
  - vi. Dynamic stretching
- v. Flexibility training exercises
  - i. Static flexibility exercise
  - ii. Active flexibility exercises
  - iii. Passive flexibility exercises
  - iv. Dynamic flexibility exercises
    - v. PNF flexibility exercises
  - vi. Contraindicated exercises

## Resources

Delavier, Frances. *Strength Training Anatomy*. 4th ed. Champaign, IL: Human Kinetics, 2022.

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American College of Sports Medicine. *ACSM's Guidelines for Exercise Testing and Prescription*. 11th ed. Philadelphia, PA: Lippincott Williams & Wilkins, 2021.

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Brad J. Schoenfeld, Ronald L. Snarr. *NSCA's Essentials of Personal Training*. 3rd. Champaign, IL: Human Kinetics, 2022.

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American College of Sports Medicine. *ACSM's Resources for the Personal Trainer*. 6th ed. Philadelphia, PA: Lippincott Williams & Wilkins, 2021.

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National Strength and Conditioning Association. *Exercise Manual Technique for Resistance Training*. 4th ed. Champaign, Ill: Human Kinetics, 2022.

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American Council on Exercise. *ACE Personal Trainer Manual: The Ultimate Resource for Fitness Professionals*. 5th ed. NY: American Council on Exercise, 2014.

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National Academy of Sports Medicine. *NASM's Essentials of Personal Fitness Training*. 7th ed. NY: Jones and Bartlett Publishing, 2021.

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Nelson, Arnold; Kokkonen, Jouko. *Stretching Anatomy*. 3rd ed. Champaign, Ill: Human Kinetics, 2021.

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Berg, Kristian. *Prescriptive Stretching*. 2nd ed. Champaign, Ill: Human Kinetics, 2020.

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Biagioli, Brian. *NCSF Advanced Concepts of Personal Training*. 2nd ed. 2019.

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