

Group Exercise Instructor Study Guide

If you are studying for the Group Exercise Instructor Certification Exam, read and study the following sections and chapters of the **2011 NETA Fitness Professional Manual** prior to attending the Group Exercise Instructor Certification Workshop, **and/or** sitting for the Group Exercise Instructor Certification Exam.

Section 1 – Behavioral Sciences

Chapter 1 – Behavior Change, Goal Setting & Motivation

- A. Introduction
 - A.1 Terms and Definitions
- B. Behavior Change
 - B.1 Keys to Change
 - B.2 Stages of Change
 - B.3 Self Efficacy
- D. Motivation
 - D.1 Strategies to Promote Exercise Adherence
 - D.2 Motivation Strategies
 - D.3 Psychological aspects of Motivation
 - D.4 Physiological aspects of Motivation
- F. Chapter Summary

Chapter 2 – Stress Management & Resiliency

- A. Introduction
 - A.1 Terms and Definitions
- B. Positive Thinking
- C. Recognizing Stress
 - C.1 Stress Response
 - C.2 Stress Management Strategies
- D. Chapter Summary

Chapter 3 – Communication, Adult Learning, and Leadership

- A. Introduction
 - A.1 Terms and Definitions
 - A.2 Effective Communication
 - A.3 The Message
 - A.4 Verbal Active Listening Skills
 - A.5 Non-Verbal Active Listening Skills
- B. Adult Learning
 - B.1 Learning Patterns
 - B.2 Personal Learning Philosophies
 - B.3 Stages of Learning
- C. Roles of the Fitness Professional
 - C.1 Personal Qualities and Characteristics
 - C.2 Leadership
 - C.3 The Leadership Role of the Fitness Professional
- D. Chapter Summary

Section 1 – Review

Section 2 – Exercise Sciences

Chapter 4 – Anatomy

- A. Introduction
 - A.1 Terms and Definitions
- B. Skeletal Anatomy
 - B.1 Types of Joint Articulations
 - B.2 The Spine
- C. Muscle Anatomy
 - C.1 Muscle Structure & Classification
 - C.2 Muscle Contractions
 - C.3 Muscle Functions
- D. Chapter Summary

Chapter 5 – Exercise Physiology

- A. Introduction
 - A.1 Terms and Definitions
- B. Energy Systems - Bioenergetics
 - B.1 Phosphagen System
 - B.2 Anaerobic Glycolysis
 - B.3 Aerobic Glycolysis
 - B.4 Fatty Acid Oxidation
- C. Metabolic Response to Exercise
 - C.1 Short Term
 - C.2 Long Term
 - C.3 Transitions from Rest to Exercise to Recovery
- D. Cardiorespiratory Adaptations
 - D.1 Terminology
 - D.2 Anatomy of the Heart
 - D.3 Respiratory Adaptations
- E. Muscle Physiology
 - E.1 Muscle Fiber Type
 - E.2 Neuromuscular System
- F. Chapter Summary

Chapter 6 – Biomechanics

- A. Introduction
 - A.1 Terms and Definitions
- H. Postural Alignment
 - H.1 Profile
 - H.2 Pull of Gravity
- I. Chapter Summary

Chapter 7 – Kinesiology

- A. Introduction
 - A.1 Terms and Definitions
 - A.2 Joint Actions
- B. Muscles of the Shoulder Complex
 - B.1 Range of Motion
 - B.2 Orthopedic Concerns
- C. Muscles of the Arm
 - C.1 Range of Motion
- D. Muscles of the Trunk
 - D.1 Vertebral Anatomy
 - D.2 Range of Motion
 - D.3 Low Back Mechanics
- E. Muscles of the Hip and Knee
 - E.1 Range of Motion
 - E.2 Orthopedic Concerns
- F. Muscles of the Lower Leg
- G. Chapter Summary

Section 2 – Review

Section 3 – Legal Issues

Chapter 8 – Documentation

- A. Introduction
 - A.1 Terms and Definitions
- B. Informed Consent
- C. Waivers
- D. Medical Clearance
- E. Health Screening Tools
 - E.1 PAR-Q
 - E.2 Personal Health History
- F. Emergency Contact Information
- G. Chapter Summary

Chapter 9 – Legal Issues

- A. Introduction
 - A.1 Terms and Definitions
- B. Liability
- C. Negligence
- D. Waivers
- E. Liability Insurance
- F. Sources of Liability
- G. Scope of Practice
- H. Chapter Summary

Chapter 10 – Ethical and Professional Standards

- A. Introduction
 - A.1 Terms and Definitions
- B. The NETA Certified Fitness professional Code of Ethics
- C. Professional Issues
 - C.1 Maintaining Certification
- D. Chapter Summary

Section 3 – Review

Section 4 – Health & Fitness Assessments

Chapter 11 – Health Risk Assessment

- A. Introduction
 - A.1 Terms and Definitions
- B. Par-Q
- D. Risk Factors for CAD
- G. Chapter Summary

Section 4 – Review

Section 5 – Fitness Programming

Chapter 13 – Physical Fitness

- A. Introduction
 - A.1 Terms and Definitions
- B. Fitness Components
 - B.1 Cardiorespiratory Endurance
 - B.2 Muscular Endurance
 - B.3 Muscular Strength
 - B.4 Flexibility
 - B.5 Body Composition

- C. Training Principles
 - C.1 Overload
 - C.2 Specificity
 - C.3 Progression
 - C.4 Reversibility
- D. Monitoring Exercise Intensity
 - D.1 Metabolic Method
 - D.2 Using Metabolic Equivalents to Guide Exercise Intensity
 - D.3 Activity Dose
 - D.4 Heart Rate Method
 - D.5 Counting Heart Rate
 - D.6 Target Heart Rate
 - D.7 Resting Heart Rate
 - D.8 Maximal Heart Rate
 - D.9 Maximal Target HR
 - D.10 Karvonen
 - D.11 Recovery
 - D.12 Perceived Exertion
 - D.13 Rate of Perceived Exertion
 - D.14 Dyspnea
 - D.15 The Talk Test
- E. Physical Activity and Fitness
 - E.1 Guidelines to Improve
 - E.2 CRE Training
 - E.3 Resistance Training
 - E.4 Flexibility Training
- F. Physical Activity and Health
 - F.1 Guidelines to Improve
- G. Chapter Summary

Chapter 14 – Cardiorespiratory Endurance

- A. Introduction
 - A.1 Terms and Definitions
- B. Warm Up
- C. Guidelines for CRE Training
- D. Interval Training
- E. Cool Down
- F. Chapter Summary

Chapter 15 – Resistance Training

- A. Introduction
 - A.1 Terms and Definitions
- B. Types of Resistance Training
- C. Resistance Training Guidelines
- D. Common Exercises
- E. Program Design
 - E.1 Initial Client Consultation
 - E.2 Resistance Exercises
 - E.3 Essential Exercises
 - E.4 Order of Exercises
 - E.5 Type of Routine
 - E.6 Determine Workloads
 - E.7 Reevaluate Progress
 - E.8 Challenge Variations
 - E.9 Sample Resistance Training Programs
- F. Chapter Summary

Section 5 – Review

Chapter 16 – Flexibility

- A. Introduction
 - A.1 Terms and Definitions
- B. Stretching Benefits, Guidelines, and Rules
 - B.1 Benefits of Stretching
 - B.2 Stretching Guidelines
 - B.3 Rules of Stretching
- C. Types of Flexibility
- D. Chapter Summary

Section 5 – Review

Section 6 – Nutrition & Weight Management

Chapter 17 – Nutrition

- A. Introduction
 - A.1 Terms and Definitions
- B. Dietary Guidelines
 - B.1 Adequate Nutrients
 - B.2 Weight Management
 - B.3 Physical Activity

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- B.4 Food Groups
 - B.5 Fats
 - B.6 Carbohydrates
 - B.7 Sodium & Potassium
 - B.8 Alcoholic Beverages
 - B.9 Food Safety
 - C. USDA Food Pyramid
 - D. Healthy Eating Pyramid
 - E. Six Essential Nutrients
 - E.1 Carbohydrates
 - E.2 Protein
 - E.3 Fats
 - E.4 Vitamins
 - E.5 Minerals
 - E.6 Water
 - F. Nonessential Nutrients
 - F.1 Fiber
 - F.2 Cholesterol
 - F.3 Alcohol
 - G. Food Labeling
 - G.1 Nutrition Panels
 - G.2 Percent Daily Value
 - G.3 Common Serving Sizes
 - G.4 Nutritional Claims
 - H. Serving Percentages
 - I. Sports Nutrition
 - I.1 Event Nutrition
 - I.2 Carbohydrate Loading
 - I.3 Hydration and Performance
 - J. Chapter Summary
- Chapter 18 – Weight Management**
- A. Introduction
 - A.1 Overweight Statistics
 - A.2 The Weight Loss Industry
 - A.3 Fad Diets
 - B. Healthy Body Composition
 - B.1 Goal Body Weight
 - C. Safe Weight Loss
 - C.1 Guidelines for Safe Weight Loss
 - C.2 Exercise Programming for Safe Weight Loss
 - C.3 National Weight Control Registry
 - C.4 Behavior Modification Strategies
 - D. Eating Disorders
 - D.1 Anorexia Nervosa
 - D.2 Bulimia Nervosa
 - D.3 Binge-Eating Disorder
 - D.4 Professional Ethics
 - D.5 Resources
 - E. Chapter Summary
- Section 6 – Review**
- Section 7 – Injuries, Medical Considerations, and Special Populations**
- Chapter 19 – Injury Prevention**
- A. Introduction
 - A.1 Terms and Definitions
 - B. Principles of Injury Prevention
 - B.1 Proper Warm-Up
 - B.2 Biomechanics
 - B.3 Do Not Exercise through Pain
 - B.4 Program Design
 - B.5 Muscular Balance
 - B.6 Equipment
 - B.7 Shoes
 - B.8 Flooring
 - B.9 Workout Pace
 - B.10 Cool-Down
 - B.11 Stretching
 - C. Chapter Summary
- Chapter 20 – Common Exercise Related Injuries**
- A. Introduction
 - A.1 Terms and Definitions
 - B. Strains
 - C. Sprains
- D. Closed Wounds
 - E. Open Wounds
 - F. Fractures
 - G. Stress Fractures
 - H. Shin Splints
 - I. Plantar Fasciitis
 - J. Chondromalacia Patellae
 - K. Achilles Tendon Injuries
 - L. Meniscus Tears
 - M. Tendonitis
 - N. Low Back Pain
 - O. Muscular Soreness
 - P. Chapter Summary
- Chapter 21 – Responding to Injuries**
- A. Introduction
 - A.1 Terms and Definitions
 - B. P.R.I.C.E.
 - C. Physician Prescribed Treatment
 - D. Long Term Injury Management
 - E. Emergency Procedures
 - F. Recognizing Warning Signs
 - G. Cardiopulmonary Resuscitation
 - H. NETA Program Design for Injury Management
 - H.1 Training Clients with Injuries
 - H.2 Step One - Assessing the Client's Current Health Status
 - H.3 Step Two - What to Know about Musculoskeletal Injuries
 - H.4 Step Three – Developing the Program
 - H.5 Step Four – Starting the Program
 - H.6 Step Five – Getting Back to Normal
 - I. Chapter Summary
- Chapter 22 – Medical Considerations**
- A. Introduction
 - A.1 Terms and Definitions
 - B. Asthma
 - C. Arthritis
 - D. Diabetes
 - E. Hypertension
 - F. Osteoporosis
 - G. Coronary Artery Disease (CAD)
 - H. Heat Stress Disorders
 - H.1 Heat Cramps
 - H.2 Heat Exhaustion
 - H.3 Heat Stroke
 - I. Chapter Summary
- Chapter 23 – Special Populations**
- A. Introduction
 - A.1 Terms and Definitions
 - B. Pre and Post Natal
 - B.1 Terms and Definitions
 - B.2 Physical Changes
 - B.3 Benefits of Exercise
 - B.4 Exercise Safety Guidelines
 - B.5 Exercise Programming
 - B.6 ACOG Guidelines
 - C. Active Older Adults
 - C.1 Terms and Definitions
 - C.2 Physical Changes
 - C.3 Benefits of Exercise
 - C.4 Exercise Safety Guidelines
 - C.5 Exercise Programming
 - D. Children
 - D.1 Terms and Definitions
 - D.2 Physical Changes
 - D.3 Benefits of Exercise
 - D.4 Exercise Safety Guidelines
 - D.5 Exercise Programming
 - D.6 Resources
 - E. Chapter Summary
- Section 7 – Review**
- Section 8 – Group Exercise Instruction**
- Chapter 24 – Teaching Skills**
- A. Introduction
 - A.1 Terms and Definitions
 - B. Music
 - B.1 Music Structure
 - B.2 Principles of Counting Music
 - B.3 Music Copyright Laws & Licensing
 - C. Cueing
 - C.1 Verbal Cueing
 - C.2 Nonverbal Cueing
 - D. Choreography Development
 - D.1 Basic Progression Methodology
 - D.2 Building Blocks
 - D.3 Base Moves
 - D.4 Movement Variations
 - D.5 Transitions
 - D.6 Balanced Movements
 - D.7 Intensity
 - D.8 Modifications
 - D.9 Teaching Methods
 - E. Exercise Analysis
 - E.1 Cautionary Exercises
 - E. Chapter Summary
- Chapter 25 – Class Structure and Content**
- A. Introduction
 - A.1 Terms and Definitions
 - B. Warm-Up
 - B.1 Physiological Reasons for Warming Up
 - B.2 Develop a Warm-Up that Works
 - B.3 Components of a Warm-Up
 - B.4 Dynamic / Moving Warm-Up
 - B.5 Balanced Movements
 - B.6 Rehearsal Effect
 - B.7 Readiness
 - B.8 Sample Warm-Up Choreography
 - C. CRE Training
 - C.1 Cardio Phase
 - C.2 Sample Choreography
 - D. Muscle Conditioning
 - D.1 Lower Body
 - D.2 Core
 - D.3 Upper Body
 - E. Cool-Down
 - E.1 Benefits of Stretching
 - E.2 Standing Cool-Down
 - E.3 Final Cool-Down
 - E.4 Organizing the Cool-Down
 - E.5 Sample Final Stretch
 - E.6 Relaxation Phase
 - F. Chapter Summary
- Chapter 26 – Optional Group Exercise Formats**
- A. Introduction
 - A.1 Terms and Definitions
 - B. Cardio Dance
 - C. Step Training
 - C.1 Research on Step Height & Speed
 - C.2 Step Height
 - C.3 Biomechanical Considerations
 - D. Cardio Kickboxing
 - E. Group Cycling
 - F. Bootcamp Fitness
 - G. Group Resistance
 - H. Circuit Training
 - I. Interval Training
 - J. Cross Training
 - K. Water Fitness Training
 - L. Pilates
 - M. Yoga
 - N. Chapter Summary
- Section 8 – Review**