

Personal Trainer Study Guide

If you are studying for the Personal Trainer Certification Exam, read and study the following sections and chapters of the **2011 NETA Fitness Professional Manual** prior to attending the Personal Trainer Certification Workshop, and/or sitting for the Personal Trainer 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
- C. Goal Setting
 - C.1 Establishing Reasonable Goals
 - C.2 Short Term Goals
 - C.3 Long Term Goals
 - C.4 Outcome Goals
 - C.5 Performance Goals
 - C.6 Life Allowance
- 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
- E. Personal Trainer Tools
 - E.1 Health Status Scale
 - E.2 Decisional Balance
- 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
- B. Newton's Laws
- C. Types of Levers
- D. Applied Biomechanics
- E. Biomechanics of Torque
- F. Types of Mechanical Stress
- G. Deformation Response to Force
- 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
- C. Personal Health History
- D. Risk Factors for CAD
- E. Classification of Health Status
- F. Decisions
 - F.1 Medical Clearance
 - F.2 Supervised Program
 - F.3 Unsupervised Program
 - F.4 Minimum Screening
 - F.5 Maximal GXT
- G. Chapter Summary

Chapter 12 – Fitness Assessment

- A. Introduction
 - A.1 Terms and Definitions
 - A.2 About Fitness Evaluations
- B. Resting Measurements
 - B.1 Resting Heart Rate
 - B.2 Resting Blood Pressure
- C. Anthropometric Measurements
 - C.1 Circumference
 - C.2 Waist-To-Hip Ratio
 - C.3 Body Mass Index
 - C.4 Skinfold Testing
- D. CRE Testing
- E. Muscular Strength Testing
- F. Muscular Endurance Testing
- G. Flexibility Testing
- H. Field Testing
 - H.1 Rockport
 - H.2 Cooper
 - H.3 YMCA Step
 - H.4 YMCA Bench Press
 - H.5 Push-Up
 - H.6 Partial Curl-Up
 - H.7 Abdominal Strength
 - H.8 Sit & Reach
 - H.9 Shoulder Flexibility
 - H.10 Trunk Extension
 - H.11 Balance Assessment
- I. Postural Deviations Upper
 - I.1 Upper Cross Syndrome
- J. Postural Deviations Lower
 - J.1 Lower Cross Syndrome
- K. 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

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- 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
 - 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
 - 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 or Exercise
 - C.4 Exercise Safety Guidelines
 - C.5 Exercise Programming
 - D. Children
 - D.1 Terms and Definitions
 - D.2 Physical Changes
 - D.3 Benefits or Exercise
 - D.4 Exercise Safety Guidelines
 - D.5 Exercise Programming
 - D.6 Resources
 - E. Chapter Summary
- Section 7 – Review**