



## **UPDATED NASM CPT EXAM BLUEPRINT**

The National Academy of Sports Medicine (NASM) contracted with Professional Examination Service (ProExam) to conduct a practice analysis of Certified Personal Trainers (CPTs) in 2015.

This practice analysis study defines the current knowledge, skills and abilities that must be demonstrated by entry-level credential holders to safely and successfully practice. This study also serves as the “blueprint” for determining the content (performance domains) for the certification exam(s).

*PERFORMANCE DOMAINS AS VALIDATED BY THE 2015 JOB ANALYSIS STUDY INCLUDE THE INFORMATION BELOW:*

Domain 1:	Basic and Applied Sciences and Nutritional Concepts	17%
Domain 2:	Assessment	18%
Domain 3:	Program Design	21%
Domain 4:	Exercise Technique and Training Instruction	22%
Domain 5:	Client Relations and Behavioral Coaching	12%
Domain 6:	Professional Development and Responsibility	10%

### **DOMAIN 1: BASIC AND APPLIED SCIENCES AND NUTRITIONAL CONCEPTS**

*KNOWLEDGE OF:*

**K1.** Concepts and structures of anatomy including nervous system, muscular system, skeletal system, cardiorespiratory system and endocrine system

**K2.** Functions of exercise physiology related to:

- a. nervous system
- b. muscular system
- c. skeletal system
- d. endocrine system
- e. cardiorespiratory system
- f. digestive system
- g. bioenergetics and exercise metabolism

**K3.** Functional biomechanics (such as levers, force, torque)



## **DOMAIN 1 CONTINUED...**

- K4.** Principles of human movement science (such as muscle action spectrum, force-couple relationships, length-tension relationships)
- K5.** Principles of motor development (motor learning, motor control, motor behavior)
- K6.** Macronutrients (carbohydrates, protein, fat)
- K7.** Micronutrients (vitamins and minerals)
- K8.** Hydration concepts
- K9.** Recommendations and guidelines for caloric intake and expenditure
- K10.** Units of energy measurement (Kcals/Calories)
- K11.** Dietary reference intakes
- K12.** Portion sizes, meal timing and frequency
- K13.** Crash/fad/myth diets
- K14.** Common nutritional supplements including possible risks, benefits, uses and effects
- K15.** Food and supplement label reading
- K16.** Factors that may influence weight management physiology (such as law of thermodynamics, poor sleep, endocrine abnormalities, medication)

## **DOMAIN 2: ASSESSMENT**

### **TASKS**

- 1.** Select, perform, document and interpret results of subjective assessments using tools and techniques such as questionnaires and interviews to assess client's medical history, needs and readiness for fitness program.
- 2.** Select, perform, document, and interpret results of:
  - a. Static postural assessments (such as assessment of upper and lower extremities and lumbo-pelvic-hip complex).
  - b. Movement assessments (such as squat, gait, push/pull, single leg squat) in order to evaluate proper versus improper movement patterns.



## **DOMAIN 2 CONTINUED...**

- c. Strength, muscular endurance, and power assessments (such as, 1-repetition maximum strength tests, push-up test, vertical jump test).
- d. Speed, agility, and quickness assessments (such as 40 yard dash, Pro shuttle, L.E.F.T. test).
- e. Cardiorespiratory assessments (such as 3-minute Step Test, Rockport Walk Test, VO2MAX Test).
- f. Physiological assessments (such as resting heart rate, and blood pressure).

**3.** Select, perform, document, and interpret results of body composition assessments (such as Body Mass Index, skinfold, circumference measurements).

### *KNOWLEDGE OF:*

- K17.** Physical Activity Readiness Questionnaire (PAR-Q) assessment
- K18.** Essential elements of personal, occupational, and family medical history
- K19.** Medical risk factors (such as previous injuries or surgeries, chronic pain, diseases, medications)
- K20.** Elements of a lifestyle questionnaire (such as sleep, stress level, smoking, alcohol)
- K21.** Cardiorespiratory assessments (such as 3-minute Step Test, Rockport Walk Test, VO2MAX).
- K22.** Physiological assessments relevant to CPTs (such as resting heart rate, blood pressure)
- K23.** Kinetic chain checkpoints during static posture assessment (ankles, knees, lumbo-pelvic-hip complex, shoulders, head)
- K24.** Applicability of assessments from other health professionals (such as blood pressure, cholesterol, glucose)
- K25.** Body composition assessments (such as skin fold calipers, circumference, bioelectrical impedance)
- K26.** Performance assessments (such as 1-repetition maximum, vertical jump, long (broad) jump)
- K27.** Types of movement assessments (such as Overhead Squat, Single-leg Squat, gait)
- K28.** Body composition calculations (such as fat mass, lean mass, waist-to-hip ratio)
- K29.** Considerations and modifications for performing assessments with special populations (such as seniors, youth, prenatal)
- K30.** Standards for assessments and outcome expectations for special populations (such as youth, seniors, obese)
- K31.** Indicators that client's condition is out of scope and requires referral
- K32.** Criteria for reassessment (such as time lapsed, change in goals, lifestyle change)





## **DOMAIN 3: PROGRAM DESIGN**

### **TASKS**

**1.** Design client-specific program based on assessment results including:

- a. Flexibility training
- b. Resistance training
- c. Cardiorespiratory training
- d. Core training
- e. Balance training
- f. Plyometrics (reactive) training
- g. Speed Agility Quickness (SAQ) training

**2.** Design and apply program modifications as needed based on variables such as modalities, space, time, client abilities and current condition.

### **KNOWLEDGE OF:**

**K33.** Flexibility training methods (such as self-myofascial release (SMR), static, active-isolated, and dynamic stretching)

**K34.** Resistance training systems (such as single set, multiple set, super set, pyramid set, circuit training, vertical loading, horizontal loading)

**K35.** Resistance training methods (such as stabilization, strength, power) and modalities (such as machines, body weight, free weights)

**K36.** Cardiorespiratory training methods (such as zone/stage training, interval training, steady state)

**K37.** Core training methods for core-stabilization (such as plank, bird dog, bridge), core-strength (such as, reverse crunches, ball crunches, cable rotations) and core-power (such as soccer throw, rotation chest pass, medicine ball pullover throw)

**K38.** Balance training methods for stabilization (such as single-leg balance, single-leg balance and reach, single-leg windmill) strength (such as single-leg squat, single-leg deadlift, lunge to balance) and power (such as single-leg box hop-up, single-leg box hop-down, multiplanar single-leg hop)

**K39.** Proprioceptive manipulation (such as closing eyes, nodding head, single-leg stand)

**K40.** Plyometric (reactive) training methods for stabilization (such as squat jump with stabilization, box jump-up to stabilization, multiplanar jumps with stabilization) strength (such as butt kicks, tuck jumps, squat jump) and power (such as Box run steps, ice skaters, proprioceptive plyometrics)



## ***DOMAIN 3 CONTINUED...***

- K41.** Speed Agility Quickness (SAQ) training methods (such as resisted sprints, cone drills, agility ladder drills)
- K42.** Exercise progression/regression
- K43.** General adaptation syndrome
- K44.** Principle of specificity
- K45.** Principle of overload
- K46.** Principle of variation
- K47.** Periodization concepts (linear, undulating)
- K48.** Acute variables (such as sets, repetitions, exercise selection, progressions, FITTE principle)
- K49.** Risk vs. reward of different modalities and exercises
- K50.** Overtraining, rest, and recovery
- K51.** Current trends (identification of) and their applicability to individual training programs
- K52.** Types of fitness technology (such as heart rate monitors, performance trackers, calorie counters) and their uses and benefits
- K53.** Considerations for exercise program design for special populations (such as seniors, youth, prenatal)

## ***DOMAIN 4: EXERCISE TECHNIQUE AND TRAINING INSTRUCTION***

### ***TASKS***

- 1.** Provide instruction and demonstrate proper exercise technique for clients
- 2.** Observe, analyze, and provide feedback on client's exercise technique to ensure safe and effective movement
- 3.** Identify need for and implement appropriate exercise modifications to ensure safety and effectiveness of program
- 4.** Determine need for, select, and administer proper spotting techniques



## **DOMAIN 4 CONTINUED...**

### **KNOWLEDGE OF:**

**K54.** Proper set-up and technique of:

- a. Flexibility training methods (such as self-myofascial release (SMR), static, active-isolated, and dynamic stretching)
- b. Core exercises
- c. Balance exercises
- d. Plyometric (reactive) exercises
- e. Speed, agility and quickness (SAQ) exercises
- f. Resistance training exercises
- g. Warm-up protocol
- h. Cool-down protocol

**K55.** Kinesthetic, auditory, and visual cueing techniques

**K56.** Safe training practices (such as maintaining a safe environment, monitoring exercise intensity, proper equipment setup)

**K57.** Application and modalities of exercise regressions and progressions

**K58.** Safe, effective, and professional spotting techniques

**K59.** Proper breathing techniques during exercise

**K60.** Kinetic chain checkpoints (ankles, knees, lumbo-pelvic-hip complex, shoulders, head)

**K61.** Physical and medical signs, symptoms, or contraindications that require training modifications

## **DOMAIN 5: CLIENT RELATIONS AND BEHAVIORAL COACHING**

### **TASKS**

- 1.** Establish and maintain professional client-certified personal trainer (CPT) relationships using rapport building and communication techniques.
- 2.** Assess, and re-assess, short- and long-term goals, based on client's initial goals, discussion of reasonable expectations, and relevant outcomes of assessments in order to develop goals.
- 3.** Facilitate lifestyle and behavioral change through education, monitoring, and communication strategies.





## ***DOMAIN 5 CONTINUED...***

### ***KNOWLEDGE OF:***

- K62.** Communication components (such as verbal and non-verbal communication, active listening, rapport building)
- K63.** SMART goal development
- K64.** Goal expectation management (client's desires vs. needs based on assessment)
- K65.** Behavior change strategies (such as food journal, activity tracking, stress and time management)
- K66.** Psychological responses to exercise
- K67.** Barriers to behavior change
- K68.** Client expectation management

## ***DOMAIN 6: PROFESSIONAL DEVELOPMENT & RESPONSIBILITY***

### ***TASKS***

- 1.** Adhere to applicable professional standards, guidelines, regulations, and codes of conduct
- 2.** Develop and grow business (such as building client base, marketing, networking, financial planning)
- 3.** Act within CPT scope of practice, respecting occupational limitations
- 4.** Follow proper procedures in an emergency situations and report equipment malfunction, hazards, damages, and dangers)

### ***KNOWLEDGE OF:***

- K69.** Professional and ethical guidelines and standards and codes of conduct (such as record keeping, client medical clearance, physical appearance and attire, punctuality)
- K70.** Business fundamentals (such as forecasting techniques, projections)
- K71.** Marketing concepts and techniques
- K72.** Sales concepts and techniques (such as lead generation, presenting, pre-handling and overcoming objections)
- K73.** Equipment maintenance and safety considerations
- K74.** Professional limitations of personal trainer (such as psychological counseling, meal planning, diagnosing injury)



***DOMAIN 6 CONTINUED...***

***K75.*** Requirements for maintaining professional credentials

***K76.*** Resources regarding rules and regulations applicable to CPTs

***K77.*** Credible resources of information regarding health and fitness education (such as scholarly articles, peer-reviews, conferences, workshops)

***K78.*** Opportunities for professional growth through education and/or other professional experiences