Study Assistance Program
Personal Trainer Key Concepts

APPLIED EXERCISE SCIENCE KNOWLEDGE
Note: This content is intertwined through all four domains of the Personal Trainer Certification Exam.

Exercise Science
- Function of the cardiovascular system and its responses to acute aerobic exercise, regular aerobic exercise, and environmental conditions in order to supply the body with adequate oxygen and nutrients. (Chap. 1)

- The relationship between heart rate, stroke volume, cardiac output, oxygen extraction, and aerobic capacity. (Chap. 1)

- ATP production from the aerobic and anaerobic energy systems available to working muscles during exercise. (Chap. 1)

- General guidelines for Cardiovascular Fitness including the components of the FITT Principle, warm up, cool down, and the benefits of regular aerobic exercise. (Chap. 1)

- The function of skeletal muscle based on the anatomy of a muscle, muscle fiber types, and the process of muscle contraction. (Chap. 1)

- Musculoskeletal adaptations to strength training including muscle fiber type and size, connective tissue (cartilage, ligaments, and tendons) and the effects of sets and repetitions. (Chap. 1)

- Neuromuscular adaptations to strength training including muscle spindles, Golgi Tendon Organ, and the summation and recruitment of motor units. (Chap. 1)

- Strength training principles including types of overload (isometric, isotonic, and isokinetic), muscle soreness, and muscle fatigue. (Chap. 1)

- Limits of flexibility and the purpose of flexibility training. (Chap. 1)

Human Anatomy

- Common anatomical, directional, and regional terms (Table 2.1) as they apply to the body. (Chap. 2)

- Structures of the cardiovascular system and their functions. (Chap. 2)

- Structures of the respiratory system and their functions. (Chap 2)
- Structures of the central nervous system (CNS) and the peripheral nervous system (PNS) and their functions. (Chap. 2)

- Function and classification of the axial and appendicular skeleton bones. (Chap. 2)

- Structure and function of joints and the types of movements performed at each joint in relationship to the appropriate plane of motion. (Chap. 2)

- Three types of muscle tissue (skeletal, cardiac, and visceral) and muscle movement (agonist, antagonist, synergist). (Chap. 2)

- Muscles that act at the following joints: ankle, knee, hip, trunk, wrist, elbow, shoulder, and scapulothoracic articulation. (Chap. 2)

**Biomechanics and Applied Kinesiology**

- The effect of motive and resistive forces on types of motion (rotary, translatory, curvilinear, and general plane). (Chap. 3)

- The relationship of the body’s segments and the motions they produce as a result of muscle concentric, eccentric, and isometric contractions. (Chap. 3)

- Actions that occur in each plane of motion (sagittal, frontal, and transverse). (Refer to Table 3.1 and Figure 3.3) (Chap. 3)

- Application of the law of inertia, the law of acceleration, the law of impact and reaction forces to human movement. (Chap. 3)

- The relationship between the body’s first, second, and third class lever systems and respective muscle force production as they relate to resistance training. (Chap. 3)

- Affects of line of gravity and base of support on posture. (Chap. 3)

- Neutral alignment and common types of misaligned posture: kyphosis-lordosis posture, flat-back posture, sway-back posture, and scoliosis. (Chap. 3)

- Types of muscular action: isometric, concentric, and eccentric. (Chap. 3)

- Muscles and movements of the pelvis, lumbar spine, hip, knee, ankle, shoulder, elbow and wrist. (Chap. 3)

- Analyzing exercises and movements. (Chap. 3)
Nutrition

• Recommended intake of the six major nutrients for the healthy physically active adults. (Chap. 4)

• The 2005 Dietary Guidelines and Food Guide Pyramid. (Chap. 4)

• Carbohydrates: role in the body, sources of, caloric recommendations, carbohydrate loading, and the glycemic index. (Chap. 4)

• Protein: role in the body, sources of, caloric recommendations, and amino acids. (Chap. 4)

• Fat: role in the body, sources of, caloric recommendations, and the forms it takes. (Chap. 4)

• Impact of cholesterol and fat on heart disease. (Chap. 4)

• The two categories of vitamins (water-soluble and fat-soluble) and the importance of following the Recommended Dietary Allowances (RDA). (Chap. 4)

• Two categories of minerals (macro minerals and trace minerals) and their functions. (Chap. 4)

• Importance of adequate Iron intake and food choices rich in Iron. (Chap. 4)

• Importance of adequate calcium intake and calcium rich food choices. (Chap. 4)

• Guidelines for fluid replacement. (Chap. 4)

DOMAIN I: CLIENT INTERVIEW AND ASSESSMENT

Task 1 – Establish rapport and program value using effective communication and listening techniques to build trust, confidence, and enthusiasm and to maximize program participation.

• The stages of a personal trainer/client relationship (rapport, investigation, planning, and action). (Chap. 14)

• Three primary qualities of a successful helping relationship (empathy, warmth, and genuineness). (Chap. 14)

• Perception of nonverbal and verbal behaviors. (Chap. 14)
• Enhancing client self-efficacy and utilizing social support. (Chap. 13)

• Influence of social factors on the acquisition, maintenance, and cessation of behaviors. (Chap. 15)

Task 2 – Assess client attitudes, preferences, motivations, and readiness for behavior change using questionnaires and interviews to set appropriate program goals and to identify potential barriers and unrealistic expectations.

• Personal factors, program factors and environmental factors that influence adherence. (Chap. 13)

• Qualities of an effective exercise leader. (Chap. 13)

• Setting appropriate exercise goals and appropriate use of contracts for motivation. (Chap. 13)

• Components and use of effective feedback. (Chap. 13)

• Modeling exercises for clients as well as lifestyle choices. (Chap. 13)

• Preparing clients’ for inevitable lapses and identifying barriers to behavior change. (Chap. 13)

• Enhancing client self-efficacy and utilizing social support. (Chap. 13)

• Methods to assess client preferences, needs, exercise history, and motivational readiness for behavioral changes related to exercise. (Chap. 13)

Task 3 – Obtain health and exercise history and lifestyle information (e.g., nutrition habits, activity) using questionnaires, interviews, and available documents to determine risk stratification, to identify the need for medical clearance and referrals, and to facilitate program design.

• A health history form and its purpose in the initial health screening. (Chap. 5)

• The purpose of the Par-Q and its limitations. (Chap. 5)

• American College of Sports Medicine Coronary Artery Disease Risk Factor Thresholds and their application to determining the appropriate fitness tests and exercise intensity. (Chap. 5)

• Conditions and diseases that limit physical activity (e.g. cardiovascular, respiratory, musculoskeletal, metabolic). (Chap. 5)
• Conditions that require a physician referral. (Chap. 5)

• Effects of common medications on heart rate response (Table 5.2).

• How to interpret blood pressure and resting heart rate results from the physical screen. (Chap. 6)

• The importance and use of Informed Consents and Exercise History and Attitude Questionnaire. (Chap. 6)

• Physical Activity guidelines and recommendations established by the Centers for Disease Control and Prevention and the American College of Sports Medicine. (Chap. 11)

Task 4 – Conduct appropriate baseline assessments (e.g., posture, function, cardiorespiratory fitness, muscular strength and endurance, flexibility, body composition, hear rate, blood pressure, diet, lifestyle) based on the client interview, questionnaire information, and standardized protocols to establish a safe, effective exercise program and to track changes over time.

• How to interpret blood pressure and resting heart rate results from the physical screen. (Chap. 6)

• Conducting appropriate fitness tests based on client health, limitations, and goals. (Chap. 6)

• The components of heart rate and blood pressure and how to measure them. (Chap. 6)

• Appropriate submaximal cardiorespiratory fitness tests based on client health, limitations, current activities, and goals (YMCA Submaximal Bicycle Test, Ross Submaximal Treadmill Protocol, YMCA Submaximal Step Test, McArdle Step Test, The Rockport Fitness Walking Test, and the BYU Jog Test). (Chap. 6)

• Common methods of assessing body composition (body fat percentage) and the limitations of each (Hydrostatic Weighing, Bioelectrical Impedance, Skinfolds and Circumference Measurements). (Chap. 6)

• Calculations for and limitations of Body Mass Index (BMI). (Chap. 6)

• Flexibility tests for the trunk, hip and shoulders. (Chap. 6)

• Knowledge of appropriate muscular strength and muscular endurance tests based on client health, limitations, current activities, and goals (e.g. Isometric Strength
Testing, Isokinetic Strength Testing, Dynamic strength testing, Push-up Test, Half Sit-up Test, and Bench-press test). (Chap. 6)

DOMAIN II: PROGRAM DESIGN AND IMPLEMENTATION

Task 1 – Interpret the results of the client interview and assessment by evaluating responses and data to facilitate goal setting and the design of a safe and effective exercise and lifestyle program.

- American College of Sports Medicine Coronary Artery Disease Risk Factor Thresholds and their application to determining the appropriate fitness tests and exercise intensity. (Chap. 5)

- Conditions that require a physician referral. (Chap. 5)

- Effects of common medications on heart rate response (Table 5.2).

- Physical Activity guidelines and recommendations established by the Centers for Disease Control and Prevention and the American College of Sports Medicine. (Chap. 11)

- Selected special conditions, (e.g. coronary artery disease, hypertension, stroke, peripheral vascular disease, diabetes, asthma, bronchitis, emphysema, cancer, osteoporosis, low-back pain, arthritis, older adults, obesity, children and youth, pregnancy) and the characteristics associated with each. (Chap. 12)

- Appendix E: Common Medications

Task 2 – Establish specific client goals using the interpretation of interview and assessment results and current standards to provide program direction.

- American College of Sports Medicine Coronary Artery Disease Risk Factor Thresholds and their application to determining the appropriate fitness tests and exercise intensity. (Chap. 5)

- Physical Activity guidelines and recommendations established by the Centers for Disease Control and Prevention and the American College of Sports Medicine. (Chap. 11)

- Selected special conditions, (e.g. coronary artery disease, hypertension, stroke, peripheral vascular disease, diabetes, asthma, bronchitis, emphysema, cancer, osteoporosis, low-back pain, arthritis, older adults, obesity, children and youth, pregnancy) and the characteristics associated with each. (Chap. 12)

- Setting appropriate exercise goals and appropriate use of contracts for motivation. (Chap. 13)
• Use of the SMART Model to set goals. (Chap. 14)

• Two primary parts of a verbal or written contract: specifying the behavior to be achieved and stating specific reinforcements that will reward the desired behavior. (Chap. 14)

Task 3 – Apply appropriate exercise principles (e.g., frequency, intensity, duration, type) for cardiorespiratory fitness, muscular strength and endurance, and flexibility using current standards and appropriate techniques to develop a safe and effective exercise program.

• ATP production from the aerobic and anaerobic energy systems available to working muscles during exercise. (Chapter 1)

• Function of the cardiovascular system and its responses to acute aerobic exercise, regular aerobic exercise, and environmental conditions in order to supply the body with adequate oxygen and nutrients (Chapter 2)

• Structures of the cardiovascular system and their functions. (Chapter 2)

• Structures of the respiratory system and their functions. (Chapter 2)

• Structures of the central nervous system (CNS) and the peripheral nervous system (PNS) and their functions. (Chapter 2)

• Function and classification of the axial and appendicular skeleton bones. (Chapter 2)

• Structure and function of joints and the types of movements performed at each joint in relationship to the appropriate plane of motion. (Chapter 2)

• Guidelines for fluid replacement. (Chapter 4)

• Recommended intake of the six major nutrients for the healthy physically active adults. (Chapter 4)

• The 2005 Dietary Guidelines and Food Guide Pyramid. (Chapter 4)

• Carbohydrates: role in the body, sources of, caloric recommendations, carbohydrate loading, and the glycolic index. (Chapter 4)

• Protein: role in the body, sources of, caloric recommendations, and amino acids. (Chapter 4)
- Fat: role in the body, sources of, caloric recommendations, and the forms it takes. (Chapter 4)

- FITT principle (frequency, intensity, time (duration) and type) recommendations based on ACSM guidelines for cardiorespiratory fitness. (Chap. 7)

- Methods for monitoring exercise intensity (e.g. percentage of maximal heart rate, percentage of heart rate reserve (Karvonen Formula), rating of perceived exertion (RPE), talk test, METS) and their appropriate uses and calculations. (Chap. 7)

- Energy expenditure calculations. (Chap. 7)

- Cardiorespiratory training methods (e.g. continuous training, interval training, fartlek training, circuit training, and cross training). (Chap. 7)

- Guidelines for popular aerobic activities and sports (e.g. walking, running, cycling, swimming and water exercise, traditional aerobics, tennis, hiking and backpacking, and mind body exercises with a cardiorespiratory component). (Chap. 7)

- Methods to monitor heart rate and heart rate response to training. (Chap. 7)

- Factors that affect aerobic capacity and the expected time for noticeable results. (Chap. 7)

- Physiological, personal, and environmental factors that cause cardiorespiratory fatigue and their impact on exercise safety. (Chap. 7)

- Factors that affect muscular strength and endurance: gender, age, limb length, muscle length, tendon insertion, and muscle fiber-type. (Chap. 8).

- The differences between muscular strength and muscular endurance (Chap. 8)

- Types of strength training equipment (e.g. isometric, isokinetic, dynamic constant resistance, dynamic variable resistance). (Chap. 8)

- Guidelines for exercise selection, sequence, speed, sets, resistance and repetitions, range of motion, progression, and frequency. (Chap. 8)

- The importance of a warm-up and cool-down, spotting techniques, and signs for discontinuing training. (Chap. 8)

- The objectives of various resistance training methods for bodybuilding, weight-lifting, circuit training, and athletic performance (plyometrics). (Chap. 8)
• Strategies used to overcome strength plateaus. (Chap. 8)
• The role of the personal trainer in providing performance feedback (Chap. 8)
• Overload principle and its role in muscular fitness development. (Chap. 9)
• Components of programs designed for: health and fitness gains, functional training, bodybuilding, sport specific training, and core training. (Chap. 9)
• Factors affecting the recruitment of slow twitch and fast twitch motor units. (Chap. 9)
• Guidelines for determining the speed of the movement, a safe starting resistance, the amount of recovery between sets, and lactic acid removal. (Chap. 9)
• Static and dynamic flexibility and factors that limiting flexibility. (Chap. 10)
• Mechanical properties of connective tissue (tendons, ligaments, and fascia) under tension. (Chap. 10)
• Primary mechanisms related to the functions of muscle spindles (stretch reflex) and Golgi tendon organs (reciprocal inhibition) in protecting muscles and tendons. (Chap. 10)
• The difference between active and passive stretching. (Chap. 10)
• Appropriateness application of four common stretching techniques (static stretching, ballistic stretching, PNF, and active isolated stretching). (Chap. 10)
• How gender, pregnancy, body type, strength training, and warm-up affect stretching. (Chap. 10)
• Developing effective stretching program (Chap. 10)
• Four primary steps in developing a comprehensive exercise program. (Chap. 11)
• Physical Activity guidelines and recommendations established by the Centers for Disease Control and Prevention and the American College of Sports Medicine. (Chap. 11)
• Selected special conditions, (e.g. coronary artery disease, hypertension, stroke, peripheral vascular disease, diabetes, asthma, bronchitis, emphysema, cancer, osteoporosis, low-back pain, arthritis, older adults, obesity, children and youth, pregnancy) and the characteristics associated with each. (Chap. 12)
Task 4 – Implement appropriate lifestyle modification strategies (e.g., stress management, nutrition, smoking cessation) using industry standards and best practices to improve quality of life and goal attainment.

- The role of exercise in stress management. (Chap. 11)
- Traits of a good personal trainer/coach (empathy, respect, warmth, genuineness, concreteness, self-disclosure, and potency). (Chap. 11)
- Physical Activity guidelines and recommendations established by the Centers for Disease Control and Prevention and the American College of Sports Medicine. (Chap. 11)
- Obtaining physician’s clearance for special populations. (Chap. 12)
- A personal trainer’s scope of practice and standard of care regarding referrals, nutritional advice, physical screening, fitness testing, program design, and supervision. (Chap. 18)

Task 5 – Incorporate functional exercise (e.g. balance, agility, and core) in accordance with scientific research to improve movement efficiency, activities of daily living, and overall physical performance.

- Three types of contractions (isometric, concentric, eccentric) and the role of muscles in strength production (prime mover, antagonist, and stabilizer). (Chap. 8)
- Muscle fiber types (slow-twitch and fast-twitch), the motor unit, and their role in strength production. (Chap. 8)
- Factors that affect muscular strength and endurance: gender, age, limb length, muscle length, tendon insertion, and muscle fiber-type. (Chap. 8).
- Types of strength training equipment (e.g. isometric, isokinetic, dynamic constant resistance, dynamic variable resistance). (Chap. 8)
- Guidelines for exercise selection, sequence, speed, sets, resistance and repetitions, range of motion, progression, and frequency. (Chap. 8)
- The objectives of various resistance training methods for bodybuilding, weight-lifting, circuit training, and athletic performance (plyometrics). (Chap. 8)
- Overload principle and its role in muscular fitness development. (Chap. 9)
- Components of programs designed for: health and fitness gains, functional training, bodybuilding, sport specific training, and core training. (Chap. 9)
Task 6 – Teach safe and effective techniques using a variety of methods and resources to attain desired results and to promote lifestyle modification.

- Four primary steps in developing a comprehensive exercise program. (Chap. 11)
- Physical Activity guidelines and recommendations established by the Centers for Disease Control and Prevention and the American College of Sports Medicine. (Chap. 11)
- The role of exercise in stress management. (Chap. 11)
- Traits of a good personal trainer/coach (empathy, respect, warmth, genuineness, concreteness, self-disclosure, and potency). (Chap. 11)
- Three progression stages (initial conditioning stage, improvement conditioning stage, and maintenance conditioning stage) in an exercise-conditioning program as defined by ACSM (Chap. 11)
- Characteristics of the basic teaching method: assessment, teaching, and evaluation (Chap. 15)

**DOMAIN III: PROGRAM PROGRESSION, MODIFICATION, AND MAINTENANCE**

Task 1 – Evaluate ongoing progress using assessments, current standards, observation, and client feedback and performance to provide program direction and to optimize program adherence.

- Appropriate submaximal cardiorespiratory fitness tests based on client health, limitations, current activities, and goals (YMCA Submaximal Bicycle Test, Ross Submaximal Treadmill Protocol, YMCA Submaximal Step Test, McArdle Step Test, The Rockport Fitness Walking Test, and the BYU Jog Test). (Chap. 6)
- Common methods of assessing body composition (body fat percentage) and the limitations of each (Hydrostatic Weighing, Bioelectrical Impedance, Skinfolds and Circumference Measurements). (Chap. 6)
- Calculations for and limitations of Body Mass Index (BMI). (Chap. 6)
- Flexibility tests for the trunk, hip and shoulders. (Chap. 6)
- Knowledge of appropriate muscular strength and muscular endurance tests based on client health, limitations, current activities, and goals (e.g. Isometric Strength
• Testing, Isokinetic Strength Testing, Dynamic strength testing, Push-up Test, Half Sit-up Test, and Bench-press test. (Chap. 6)

• Timelines for conducting periodic fitness reassessments. (Chap. 6)

• Attending skills which require awareness of posture, positioning, mirroring, gestures, and environment. (Chap. 14)

• Perception of nonverbal and verbal behaviors. (Chap. 14)

• Use of the SMART Model to set goals. (Chap. 14)

• Visual, auditory, and kinesthetic learning pathways and the “Tell, Show, Do” model. (Chap. 14)

• Utilization of the appropriate teaching strategies in regards to the three stages of learning. (Chap. 14)

• Application of the Health Belief Model to personal training. (Chap. 15)

• Influence of social factors on the acquisition, maintenance, and cessation of behaviors. (Chap. 15)

• Progression through the stages-of-change. (Chap. 15)

• Influence of antecedents and consequences on behavior change. (Chap. 15)

• Application of shaping to personal training. (Chap. 15)

• Use of behavioral change strategies (stimulus control methods, behavioral contracts, rewards, cognitive methods, and self-monitoring). (Chap. 15)

Task 2 –Identify lapses and barriers to success by reassessing baseline measures and evaluating compliance to redefine goals and to modify the program.

• Appropriate submaximal cardiorespiratory fitness tests based on client health, limitations, current activities, and goals (YMCA Submaximal Bicycle Test, Ross Submaximal Treadmill Protocol, YMCA Submaximal Step Test, McArdle Step Test, The Rockport Fitness Walking Test, and the BYU Jog Test). (Chap. 6)

• Common methods of assessing body composition (body fat percentage) and the limitations of each (Hydrostatic Weighing, Bioelectrical Impedance, Skinfolds and Circumference Measurements). (Chap. 6)

• Calculations for and limitations of Body Mass Index (BMI). (Chap. 6)
• Flexibility tests for the trunk, hip and shoulders. (Chap. 6)

• Knowledge of appropriate muscular strength and muscular endurance tests based on client health, limitations, current activities, and goals (e.g. Isometric Strength Testing, Isokinetic Strength Testing, Dynamic strength testing, Push-up Test, Half Sit-up Test, and Bench-press test). (Chap. 6)

• Timelines for conducting periodic fitness reassessments. (Chap. 6)

• Three progression stages (initial conditioning stage, improvement conditioning stage, and maintenance conditioning stage) in an exercise-conditioning program as defined by ACSM (Chap. 11)

• Use of the SMART Model to set goals. (Chap. 14)

Task 3 – Modify program goals using appropriate educational and motivational techniques to improve compliance and awareness of the benefits of physical activity and a healthful lifestyle.

• Traits of a good personal trainer/coach (empathy, respect, warmth, genuineness, concreteness, self-disclosure, and potency). (Chap. 11)

• Three progression stages (initial conditioning stage, improvement conditioning stage, and maintenance conditioning stage) in an exercise-conditioning program as defined by ACSM (Chap. 11)

• Obtaining physician’s clearance for special populations. (Chap. 12)

• Personal factors, program factors and environmental factors that influence adherence. (Chap. 13)

• Finding exercises that will best meet client objectives, available time, and personal style and ward off boredom. (Chap. 13)

• Setting appropriate exercise goals and appropriate use of contracts for motivation. (Chap. 13)

• Preparing clients’ for inevitable lapses and identifying barriers to behavior change. (Chap. 13)

• Enhancing client self-efficacy and utilizing social support. (Chap. 13)

• Use of the SMART Model to set goals. (Chap. 14)
• Visual, auditory, and kinesthetic learning pathways and the “Tell, Show, Do” model. (Chap. 14)

• Two primary parts of a verbal or written contract: specifying the behavior to be achieved and stating specific reinforcements that will reward the desired behavior. (Chap. 14)

• Utilization of the appropriate teaching strategies in regards to the three stages of learning. (Chap. 14)

Task 4 – Implement progression to the client’s program as appropriate using established methods and techniques to facilitate goal achievement and long-term compliance.

• FITT principle (frequency, intensity, time (duration) and type) recommendations based on ACSM guidelines for cardiorespiratory fitness. (Chap. 7)

• Factors that affect aerobic capacity and the expected time for noticeable results. (Chap. 7)

• Factors that affect muscular strength and endurance: gender, age, limb length, muscle length, tendon insertion, and muscle fiber-type. (Chap. 8).

• Guidelines for exercise selection, sequence, speed, sets, resistance and repetitions, range of motion, progression, and frequency. (Chap. 8)

• The objectives of various resistance training methods for bodybuilding, weight-lifting, circuit training, and athletic performance (plyometrics). (Chap. 8)

• Strategies used to overcome strength plateaus. (Chap. 8)

• The application of FITT principle (frequency, intensity, time (duration) and type) recommendations based on ACSM guidelines for resistance training. (Chap. 9)

• Components of programs designed for: health and fitness gains, functional training, bodybuilding, sport specific training, and core training. (Chap. 9)

• Static and dynamic flexibility and factors that limiting flexibility. (Chap. 10)

• Appropriateness application of four common stretching techniques (static stretching, ballistic stretching, PNF, and active isolated stretching). (Chap. 10)

• How gender, pregnancy, body type, strength training, and warm-up affect stretching. (Chap. 10)

• Developing effective stretching program (Chap. 10)
DOMAIN IV: PROFESSIONAL RESPONSIBILITIES

Task 1 – Maintain a professional trainer-client relationship by adhering to legal requirements, professional boundaries, and standards of care and by operating within the scope of practice, as defined by the ACE Code of Ethics, to protect the client and to limit liability.

- A personal trainer’s scope of practice and standard of care regarding referrals, nutritional advice, physical screening, fitness testing, program design, and supervision. (Chap. 18)

- Purpose and limitations of legal forms: health-risk appraisal, PAR-Q, physician’s clearance, informed consent, and liability waiver. (Chap. 18)

- Insurance coverage including general liability and professional liability. (Chap. 18)

- Appropriate actions to maintain client confidentiality and securing client information. (Chap. 18)

- The Health Insurance Portability and Accountability Act (HIPAA) and the proper way of handling clients’ protected health information. (Chap. 18)

- Appendix A – ACE Code of Ethics

- Appendix F – ACE Position Statement on Nutritional Supplements

Task 2 – Treat all individuals with respect, empathy, and equality regardless of weight, appearance, ethnicity, nationality, sexual orientation, gender, age, disability, religion, marital status, socioeconomic status, and health status to maintain integrity in all professional relationships.

- Selected special conditions, (e.g. coronary artery disease, hypertension, stroke, peripheral vascular disease, diabetes, asthma, bronchitis, emphysema, cancer, osteoporosis, low-back pain, arthritis, older adults, obesity, children and youth, pregnancy) and the characteristics associated with each. (Chap. 12)

- Qualities of an effective exercise leader. (Chap. 13)

- A personal trainer’s scope of practice and standard of care regarding referrals, nutritional advice, physical screening, fitness testing, program design, and supervision. (Chap. 18)

- Appropriate actions to maintain client confidentiality and securing client information. (Chap. 18)
Task 3 – Maintain competence and professional growth by staying current with scientifically based research, theories, and practices to provide safe and effective services for clients, the public, and other health professionals.

- Appendix A – ACE Code of Ethics

Task 4 – Exercise leadership by providing directions, motivation, and education and by modeling exemplary behaviors to establish an environment for client success and to promote wellness in the community.

- Modeling healthy lifestyle behaviors. (Chap. 13)
- Qualities of an effective exercise leader. (Chap. 13)
- Appendix A – ACE Code of Ethics

Task 5 – Maintain an environment of continuous safety by upholding industry standards to reduce the risk of injury and liability.

- Characteristics of the four types of tissue relevant to musculoskeletal injuries: muscle, tendon, ligaments, and bone. (Chap. 16)
- Signs and symptoms of inflammation. (Chap. 16)
- Guidelines for the RICE principle in treating acute injuries. (Chap. 16)
- Appropriate exercise selection for common pre-existing conditions identified on pages 430 - 435. (Chap. 16)
- Signs and symptoms of hyperthermia, heat stroke, heat cramps, heat exhaustion, hypothermia, and frostbite. (Chap. 16)
- Appropriate documentation methods and secure storage of client records. (Chap. 16)
- Components of a first aid kit, effectiveness of AED’s and the appropriate steps for activating the EMS. (Chap. 17)
- The ABC’s of assessing a victim’s condition. (Chap. 17)
- Purpose and steps of the primary and secondary assessments of a victim. (Chap. 17)
- Common medical emergencies (e.g. dyspnea, asthma, chest pain, syncope, hypoglycemia, heat illnesses, and seizures). (Chap. 17)
• Basic first aid for common wounds, strains, acute sprains, and fractures.  (Chap. 17)

• Proper care for head, neck and back injuries. (Chap. 17)

• Reducing your risk of exposure to blood borne pathogens.  (Chap. 17)

• A personal trainer’s scope of practice and standard of care regarding referrals, nutritional advice, physical screening, fitness testing, program design, and supervision. (Chap. 18)

• Purpose and limitations of legal forms: health-risk appraisal, PAR-Q, physician’s clearance, informed consent, and liability waiver.  (Chap. 18)

• Insurance coverage including general liability and professional liability. (Chap. 18)

• Appropriate actions to maintain client confidentiality and securing client information.  (Chap 18.)

• The Health Insurance Portability and Accountability Act (HIPAA) and the proper way of handling clients’ protected health information. (Chap. 18)

**Task 6 – Develop risk management strategies in accordance with recognized guidelines (e.g., IHRSA, ACE, ACSM, OSHA, NSCA, state laws) to protect the client, personal trainer and other relevant parties.**

• A personal trainer’s scope of practice and standard of care regarding referrals, nutritional advice, physical screening, fitness testing, program design, and supervision. (Chap. 18)

• Purpose and limitations of legal forms: health-risk appraisal, PAR-Q, physician’s clearance, informed consent, and liability waiver.  (Chap. 18)

• Insurance coverage including general liability and professional liability. (Chap. 18)

• Appropriate actions to maintain client confidentiality and securing client information.  (Chap 18.)

• The Health Insurance Portability and Accountability Act (HIPAA) and the proper way of handling clients’ protected health information. (Chap. 18)
Task 7 – Document client related data, communications, and progress using a secure record keeping system in accordance with legal requirements (e.g., HIPPA, FERPA) to maintain continuity of care to minimize liability.

- Appropriate actions to maintain client confidentiality and securing client information. (Chap 18.)

- The Health Insurance Portability and Accountability Act (HIPAA) and the proper way of handling clients’ protected health information. (Chap. 18)

Task 8 – Participate as a member of a referral network by identifying professional contacts and community resources to ensure the highest quality of service for clients.

- Conditions that require a physician referral. (Chap. 5)

- Psychological disorders and conditions (i.e. anorexia nervosa, bulimia nervosa, low-self esteem) that require consultation with and/or referral to the appropriate professional. (Chap. 15)

- Appendix A – ACE Code of Ethics