Tactical Strength and Conditioning Facilitator (TSAC-F) Detailed Content Outline	Cognitive Level			Total # of Questions
	Recall	Application	Analysis	
1. EXERCISE SCIENCES	**7**	**13**	**6**	**26**
A. Apply Basic Concepts of Anatomy and Physiology to Describe Responses to Exercise and Occupational Job Tasks Under Load.				
1. Muscle anatomy (e.g., muscle group names, specific muscle names)				
2. Bone and connective tissue anatomy				
3. Cardiopulmonary anatomy				
B. Apply Basic Concepts of Neuromuscular Anatomy and Physiology to Describe Responses to Exercise				
1. Neuromuscular anatomy (e.g., motor unit, Type I and II fibers, muscle spindles, stretch-shortening cycle, Golgi tendon organs)				
2. Neuromuscular responses to exercise (e.g., chronic neuromuscular adaptations, motor unit recruitment patterns, nerve conduction, summation)				
C. Apply the Basic Principles of Biomechanics to Exercise Selection Relative to Occupational Job Tasks				
1. Kinetic laws and principles of movement (e.g., lever systems, momentum, work, isometric/isotonic/isokinetic)				
2. Kinematic laws and principles of movement (e.g., velocity, anatomical planes of movement, joint angles)				
3. Relationship of type of muscle action (e.g., isometric, concentric, and eccentric) to force production (e.g., force-velocity and torque-velocity relationships)				
4. Muscle dynamics and the role of muscles in movement (e.g., agonist, antagonist, synergist, stabilizer)				
D. Describe Bioenergetics and Metabolism in Relation to Exercise and Occupational Job Tasks (e.g., names and characteristics of energy systems, effects of manipulating training variables)				
E. Describe the Endocrine (Hormonal) Responses to Exercise and Stress				
1. Explain acute responses and chronic adaptations of the endocrine system to exercise and occupation-related job tasks in high stress situations				
2. Recognize the causes, signs, symptoms, and effects of overtraining caused by occupational environments or inappropriate exercise				
F. Describe Physiological Adaptations to Exercise Designed to Improve Physical Performance (e.g., aerobic endurance, muscular endurance, muscular strength, speed and agility, muscular power, flexibility)				
1. Explain physiological implications related to age, sex, and training status				
G. Explain Overtraining, Detraining, and Retraining				
1. The usual time course of detraining and retraining				
2. Minimum training requirements to maintain training adaptations				
3. Risks and outcomes of overtraining (e.g., excess volume and/or intensity, single modality training)				

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H. Identify Environmental Concerns (e.g., heat, cold, altitude, smoke, uneven terrain) for Tactical Populations				
1. Physiological adaptations to diverse environmental conditions				
2. Environmental illnesses (e.g., heat and cold injuries, altitude sickness) and their predisposing factors				
3. Effect of environmental conditions on physical performance and work capacity on diverse tactical populations				
4. Process and time of acclimatization/adjustment				
5. Recognize limitations to physical exercise in adverse conditions and manipulate training programs accordingly				
6. Effects of apparel selection and impacts on thermoregulation				
2. NUTRITION	**5**	**4**	**1**	**10**
A. Explain Nutritional Factors Affecting Health and Performance				
1. Health-related and performance-related application of food (e.g., food groups, food exchanges, ChooseMyPlate.gov, nutrient density)				
2. Basic nutritional needs of tactical populations (e.g., proteins, carbohydrates, fats, vitamins, minerals)				
3. Chronic disease risk factors associated with dietary choices				
4. Effects of fluid and electrolyte balance/imbalance on health and performance				
5. Effects of unpredictable and/or prolonged schedules during deployment, field exercise, and shift work on nutritional status				
B. Explain Nutritional Strategies for Optimizing Body Composition and Maximizing Physical Performance and Recovery				
1. Timing and composition of nutrient and fluid intake before, during, and after an exercise session, operation, mission, or shift				
2. Nutritional factors that affect muscular endurance, hypertrophy, strength, and aerobic endurance				
3. Nutrition strategies to mitigate unpredictable and/or prolonged schedules during deployment, field exercise, and shift work				
C. Recognize Adverse Signs, Symptoms, and Behaviors Associated with Eating Habits that Indicate the Need for Referral to a Registered Dietician				
D. Explain the Benefits, Risks, and Proper Use of Common Dietary Supplements and Ergogenic Aids (e.g., creatine, protein, caffeine, steroids)				
1. Benefits and side effects of dietary supplement use				
2. Understand the lack of supplement regulation and benefit of third-party testing				

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3. EXERCISE TECHNIQUE	**6**	**13**	**7**	**26**
A. Teach Safe and Effective Exercise Techniques				
1. Preparatory body and limb position (e.g., stance, posture, alignment)				
2. Execution of technique (e.g., body and limb positions, movement mechanics, breathing)				
3. Identification and correction of improper exercise technique				
4. Spotting				
B. Explain a Dynamic Warm-Up that is Specific to the Prescribed Exercise Plan				
C. Explain Resistance Training Exercise Modes				
1. Free weight training equipment				
2. Resistance machines				
3. Bodyweight resistance (e.g., proprioception, functional movement)				
4. Alternative Implements (e.g., rope climbing, sleds, load carriage)				
D. Explain Plyometric Exercise Techniques				
1. Recognize the difference between acceleration and maximal speed and their application				
E. Explain General Agility Techniques				
1. Reactive multidirectional movement to include stopping, starting, dropping, and rising				
2. Explain the difference between change of direction and agility				
F. Explain Anaerobic and Aerobic Endurance Exercise Modes				
1. Cardiovascular exercise modes (e.g., machine and non-machine)				
2. Occupational-specific activities (e.g., load carriage)				
G. Explain Flexibility and Mobility Exercise Modes				
1. Static stretching exercises				
2. Proprioceptive neuromuscular facilitation (PNF) stretching				
3. Dynamic and ballistic stretching exercises				
4. Myofascial release (e.g., foam rolling)				
4. ASSESSMENT AND EVALUATION	**4**	**9**	**4**	**17**
A. Administer Assessments				
1. Identify assessments used by tactical organizations (e.g., physical fitness tests, job suitability tests, fitness for duty test)				
2. Select and explain assessments based upon the unique occupational demands, administrator and equipment availability, time constraints, and training status				
3. Develop alternative assessments and make reasonable accommodations based on individual capabilities and limitations				
4. Establish a plan for frequency of assessment				
5. Administer occupationally-specific assessment protocols and procedures to ensure accurate and reliable data collection				
B. Evaluate Assessment Results				

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1. Interpret individual and group assessment performance				
2. Use assessment results to design or modify training programs				
3. Evaluate assessment results to show programmatic progress				
5. PROGRAM DESIGN	**8**	**10**	**9**	**27**
A. Perform a Needs Analysis Based on Job Requirements				
1. Identify critical job tasks				
2. Identify physiological requirements and injury risk factors associated with critical job tasks				
3. Identify energy systems associated with critical job tasks				
B. Identify Circumstantial/Lifestyle Factors				
1. Professional factors (e.g., work schedule, environmental factors)				
2. Personal factors (e.g., family obligations, personal fitness goals)				
C. Identify Current Health, Fitness, and Performance Status				
1. Identify individual physical capabilities and limitations (e.g., age, sex, training status, injury status)				
2. Evaluate fitness and performance status against mandatory occupational requirements				
D. Design Training Programs that Maximize Performance, Reduce Injury Risk, and Increase Long-Term Wellness				
1. Target specific performance outcomes by manipulating training variables (e.g., mode, intensity, duration, volume, work:rest ratio)				
2. Incorporate various training methods and modalities (e.g., resistance, plyometric, speed/sprint, agility, aerobic, anaerobic, flexibility, mobility)				
3. Utilize the concept of specificity				
4. Optimize muscle balance and movement patterns				
5. Apply the principles of exercise order based on the goal of the training session				
6. Establish appropriate exercise progression/regression				
7. Apply the principles of periodization based on occupational demands				
8. Develop appropriate training variations based on environmental constraints and occupational tempo				
9. Identify training objectives for each phase of rehabilitation and reconditioning, and modify program based on capabilities and limitations				
E. Identify Need for Recovery and Appropriate Modes				
1. Passive versus active recovery				
2. Individualized recovery methods (e.g., alternative workouts, cryotherapy, percussive therapy, massage, meditation)				

Tactical Strength and Conditioning Facilitator (TSAC-F)
Detailed Content Outline

	Cognitive Level			
	Recall	Application	Analysis	Total # of Questions
6. WELLNESS INTERVENTION	**5**	**7**	**2**	**14**
A. Describe Advantages of Performing Various Types of Physical Activities				
B. Describe the Benefits of Intentional Application of Recovery Strategies (e.g., passive and active, sleep hygiene)				
C. Describe and Mitigate Risk Factors Associated with Common Chronic Injuries/Diseases within Tactical Populations				
D. Understand How Lifestyle and Occupational Stress Affects Health, Wellness, and Performance				
E. Understand Basic Resiliency and Coping Skills (e.g., goal setting, motivational techniques, mental imagery, emotional regulation)				
7. ORGANIZATION AND ADMINISTRATION	**2**	**6**	**2**	**10**
A. Understand the Organization and Flow of the Training Area				
1. Identify specific space and equipment needs of the population(s) that will use the training area				
2. Apply strategies to arrange and space the equipment within the training area				
B. Execute Policies and Procedures for the Training Area				
1. Recognize the primary duties and responsibilities of the various personnel in the training area				
2. Enforce rules for using the training area based upon current industry best practices and organizational guidelines				
C. Create and Ensure a Safe Training Environment				
1. Identify pre-participation screening and medical referral requirements for program participants				
2. Establish checklists and schedules for equipment maintenance and cleaning				
3. Identify and mitigate common risks within the training environment				
4. Follow procedures to respond to emergencies				
5. Maintain appropriate training records				
6. Identify needs and strategies to accommodate dynamics/logistics of training large groups (e.g., limited equipment, experience level of the tactical population, supervision of training)				
D. Understand Professional and Legal Responsibilities				
1. Identify common litigation issues and methods for reducing and/or minimizing the risk and liability				
2. Know when to refer an individual to and/or seek input from appropriate healthcare professionals (e.g., chronic disease, eating disorder behavior, supplement use, injury, pain, behavioral health issues)				
E. Identify Metrics that Show Program Effectiveness (e.g., establish key performance indicators [KPIs], program participation, cost savings, impact on population performance or health)				
F. Understand the role of the interdisciplinary performance team				
Totals	**37**	**62**	**31**	**130**