

Sacramento Police Department- 2320  
PHYSICAL TRAINING (PT) INSTRUCTOR COURSE

**Statement of Purpose:** The purpose of this course is to provide officers with the skill and expertise to design, implement, apply and instruct a physical training program in an Academy setting.

**I. Introductions**

- A. Participants
- B. Instructors

**II. Orientation**

- A. Housekeeping
- B. Review safety policy
- C. Role of PT Instructors
- D. PT Instructor skills
- E. Purpose and training strategies
  - 1. Assess operational fitness
  - 2. Mitigate injuries
  - 3. Improve performance
- F. Key strategies
  - 1. Create effective periodized training programs
  - 2. Develop physical training specific to job demands
  - 3. Coordinate daily PT to meet program goals
- G. Job Specific Benefits of Fitness

**III. Course Objectives**

- A. Review course objectives, review course content, and understand the idea of training an Academy Recruit
- B. Role of science in PT programming and instruction
- C. Course Objectives include presentations of the following:
  - 1. Anatomy and Physiology
  - 2. Energy System training
  - 3. Biomechanics
  - 4. Conditioning Principles: Cardiovascular and Strength Training
  - 5. Exercise Prescription: Cardiovascular and Strength Training Applications
  - 6. Warm up and Warm Down or Recovery
  - 7. Corrective Exercise Training - Mobility, Stability and Core training
  - 8. Body Composition
  - 9. Exercise Prescription: Strength Training Applications – Patterns of Movement
  - 10. Circuit/Suspension Training
  - 11. Calisthenics
  - 12. Nutrition
  - 13. Power, Acceleration, Speed and Agility Training
  - 14. Injury Prevention and Assessment
  - 15. Safety Protocols
  - 16. Legal Issues

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- 17. Post Requirement
- 18. Leadership
- 19. Testing
- 20. Performance Evaluation Techniques
- 21. Program Design
- D. Course Objectives include Written, Oral and/or Demonstrated Assessments of participants as part of a learning activity for the following sections:
  - 1. Warm up and Recovery
  - 2. Conditioning Principles
  - 3. Strength Training Application and Patterns of Movement
  - 4. Work Sample Test Battery
  - 5. Corrective Exercise Training - Mobility, Stability and Core training
  - 6. Body Composition
  - 7. Circuit/Suspension/Calisthenic Training
  - 8. Power, Acceleration, Speed and Agility training
  - 9. Exercise Prescription - Program Design

**IV. Anatomy and Physiology**

- A. Explain terminology and function of the respiratory system
  - 1. Oxygen Intake
  - 2. Carbon Dioxide Expulsion
- B. Explain terminology and function of the Cardiovascular system (the heart)
  - 1. Oxygenated Blood Circulation
  - 2. De-Oxygenated Blood Circulation
- C. Explain terminology and function of the skeletal and muscular system
  - 1. Axial and Appendicular
  - 2. Oxygen extraction
  - 3. Energy Production
  - 4. Muscle Fiber Types
  - 5. Exercise muscle anatomy
- D. Explain terminology and function of the nervous system
  - 1. Process
  - 2. Ratios
- E. Explain terminology and function of the neuromuscular system
  - 1. Motor Unit
  - 2. Regulation of muscle force
  - 3. Recruitment patterns
  - 4. Application
- F. Explain terminology and function of the musculoskeletal system
  - 1. Purpose
  - 2. Axial and Appendicular
  - 3. Connective tissue
  - 4. Muscle action
  - 5. Muscle balance

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**V. Energy Systems**

- A. Primarily focus on the source of energy for muscular contraction.
- B. Three physiological systems in the body that produce energy:
  - 1. Phosphagen (ATP-CP)
  - 2. Glycolytic
  - 3. Oxidative
- C. Explain Energy System Interaction
  - 1. System
  - 2. Duration
  - 3. Classification
  - 4. Energy Sources

**VI. Biomechanics**

- A. Explain terminology and function related the body's biomechanics as it relates to training for performance
  - 1. Key principles and terminology
  - 2. Lever System
    - a. Forces
    - b. Components
    - c. Function
    - d. Classifications
  - 3. Factors in human strength
    - a. Implements
    - b. Training curves
    - c. Muscle Cross Section vs Total Muscle Volume
    - d. Muscle contraction velocity
    - e. Joint angle
    - f. Strength to mass ratio and body size
  - 4. Types of forces and stability
  - 5. Safety considerations
    - a. Valsalva maneuver
    - b. Injuries – back, shoulder and knee
    - c. Form
    - d. Types of forces acting on joints
  - 6. Center and line of Gravity
    - a. Stability
- B. **Adult Learning/Motivation Activity** – Students will participate in a hands-on demonstration of biomechanical applications

**VII. Conditioning Principles: Cardiovascular and Strength Training**

- A. Explain the principles of training - Specificity
  - 1. Principle
  - 2. Physiological
  - 3. Job Application
- B. Explain the principles of training - Overload

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1. Principle
2. Training Consideration
3. Periodization
- C. Explain the principles of training - Adaptation
  1. Principle
  2. Skeletal Muscular Adaptation
  3. Neuromuscular Adaptation
  4. Cardiovascular Adaptation
  5. Training Elements to Optimize Adaptation
  6. Overtraining
- D. Explain the principles of training - Reversibility
  1. Principle
  2. Strength vs Cardiovascular
  3. Maintenance
  4. Variability
- E. **Adult Learning/Motivation Activity** – Students will complete a writing assignment associating conditioning principles with a workout scenario
- F. Students must demonstrate proficiency and accuracy in the above topics.

**VIII. Exercise Prescription: Cardiovascular and Strength Training Applications**

- A. Training applications
  1. Structured vs Unstructured training
  2. Elements of training
  3. Benefits – the advantaged gained from this type of training
  4. Importance – the significance and value of this type of training
  5. Foundation – the training applications associated with this type of training
  6. Execution – the course of action and instructional cues needed for this type of training
  7. Programming – the parameters necessary to carry out this type of training
- C. **Adult Learning/Motivation Activity** – Students will review and complete a workout and exercise scenarios and their relationship to exercise progression.
- D. Students must demonstrate proficiency in the above topics by completing proper technique

**IX. Warm-up and Recovery**

- A. Explain physiological reasons for warm-up:
  1. Core temperature
  2. Heart rate and blood flow to skeletal tissues
  3. Activation of the Central Nervous System
  4. Rate and force of muscle contraction
  5. Suppleness of connective tissue
- B. Review elements, prescription and cues of Dynamic Stretching
- C. Explain why recovery is critical for physical performance improvement.
  1. Improved training response

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- 2. Stay healthy
- 3. Better effectiveness
- D. Explain fatigue theories, causes, symptoms, nutrition elements, recovery strategies and monitoring.
  - 1. Metabolic
  - 2. Neuromuscular
  - 3. Neurological (brain)
  - 4. Psychological
- E. Explain the interaction of fatigue, stress and hormones
  - 1. Positive aspects
  - 2. Negative aspects
  - 3. Cortisol
- F. Explain the importance of flexibility and specific warm up content
  - 1. Definitions
  - 2. Importance of flexibility
  - 2. Factors affecting flexibility
  - 4. Range of Motion
  - 5. Instructional cues
- G. **Adult Learning/Motivation Activity** – Students will complete a hands-on demonstration of warm up and warm down stretching techniques
- H. Students will be assessed and must demonstrate correct application of the technique.

**X. Works Sample Test Battery (WSTB) – Hands-On**

- A. WSTB
  - 1. POST-required final exam as described in the Work Sample Test Battery Proctor Manual 2025
  - 2. Timing
  - 3. Proctor training
  - 4. Test administration
  - 5. Scoring
  - 6. Job relatedness
    - a. Related to FTO success
    - b. Based on job analysis
- B. **Adult Learning/Motivation Activity** – Review and demonstrate Work Sample Test Battery administration.
  - 1. Equipment requirements
  - 2. Set up
  - 3. Stations
  - 4. Testing
  - 5. Scoring
  - 6. Common errors
  - 7. Information resources

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**XI. Corrective Exercise Training - Mobility, Stability, and Core**

- A. Principles and Definitions
  - 1. Balance
  - 2. Flexibility
  - 3. Multiplane
  - 4. Progressions
- B. Core Mobility and Stability
  - 1. Key elements
  - 2. Muscle groups
  - 3. Body orientation
  - 4. Areas of mobility
  - 5. Areas of stability
  - 6. Serape Affect
  - 7. Creating balance
- C. Core Training
  - 1. Key training components:
    - a. Importance and Benefits
    - b. Key Elements
    - c. Key Considerations
    - d. Training Parameters
    - e. Protect spine
- D. Review, demonstrate and practice Core corrective training techniques with instructional cues
  - 1. Mobility - full stretching and foam rolling routine
  - 2. Stability – various core strengthening exercises
- E. **Adult Learning/Motivation Activity** – Students will complete a hands-on demonstration of core mobility, and stability exercises.
- F. Students will be assessed by demonstrating proficiency by completing proper technique.

**XII. Exercise Prescription: Strength Training Patterns of Movement**

- A. Progressive of lifting patterns
- B. Review and explain strength training patterns of movement and the instructional cues involved with each movement.
  - 1. Hip Hing
  - 2. Squat
  - 3. Lunge
  - 4. Push
  - 5. Pull
  - 6. Rotation
  - 7. Gait
- C. Exercise applications
- D. Review, demonstrate and practice push, pull and squat sets and combinations sets with instructional cues

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1. Push
2. Pull
3. Squat
- E. Review, demonstrate and practice Olympic Lift technique with instructional cues
  1. Clean
  2. Push Press
- F. Review, demonstrate and practice deadlift technique with instructional cues
  1. Dead lift
  2. Squats – back, front
  3. Bench press
- G. Review, demonstrate and practice assisted lift technique with instructional cues
  1. Presses: alternate, single arm
  2. Pulls: pull-ups, rows, machine pulls
- H. **Adult Learning/Motivation Activity** – Students will complete a hands-on demonstration of strength training movement patterns
- I. Students must demonstrate proficiency by completing proper technique.

**XIII. Body Composition**

- A. Purpose
  1. Performance
  2. Disease prevention
  3. Energy intake assessment
- B. Body Composition
  1. Bones
  2. Protein
  3. Water
  4. Fat
- C. Fat vs Lean Mass
- D. Body Fat assessment tools
  1. Skin Folds
  2. Bioelectrical impedance
  3. Hydrostatic Weighing
  4. DEXA Scan
- E. **Adult Learning/Motivation Activity** – Students will demonstrate and practice Body composition measurement techniques using two different Bioelectrical impedance instruments
  1. Equipment and materials
  2. Set up
  3. Test procedures
  4. Reviewing Computations
- F. Students will be assessed by demonstrating proficiency by completing proper technique.

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**XIV. Circuit Training**

- A. Benefits
  - 1. Interval based training
  - 2. Enhances various metabolic capabilities
  - 3. Benefits combined in one workout
  - 4. Calisthenic (Body weight) options – see Calisthenics
  - 5. Highly adaptable to Academy and Law Enforcement setting
- B. Explain prerequisites to successful circuit training.
  - 1. Work capacity base
  - 2. Core strength
  - 3. No Mobility issues
  - 4. Proper movement patterns
  - 5. Not currently managing injuries
- C. Training Considerations
  - 1. Fitness/Cardio (Aerobic and Anaerobic)
  - 2. Impact and non-impact vs Strength, Aerobic or Anaerobic
    - a. vs Plyometric or Acceleration/Agility
  - 3. Combo/Full Body - balance
  - 4. Small Group
  - 5. Single Station
  - 6. Multi-station
- D. Training Foundations
  - 1. Training Component Combinations
  - 2. Overload Volume vs intensity
  - 3. Core – always
  - 4. MultiJoint Exercises – good choices
  - 5. Technical - progress – less to more
  - 6. Resistance level
  - 7. Total reps, time and rounds
  - 8. Order of exercises
  - 9. Adjusting the work to rest ratios
  - 10. Rest periods + Plus station movement
  - 11. Corrective Exercises/Rehab
  - 12. Intensity vs Form – Don't sacrifice form for reps!!
  - 13. Work to Rest Ratios
- E. Programming Considerations
  - 1. AMRAP
  - 2. For Time
  - 3. Super Sets
  - 4. EMOM
  - 5. Tabata
  - 6. Standard Circuit (Total Rounds)
  - 7. Traditional (Sets & Reps)



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- F. Suspension Training
  - 1. Training Elements
  - 2. Principles
  - 3. Applications
  - 4. Multi- user
  - 5. Integration vs Isolation
  - 6. Instructional Cues

**XV. Calisthenics**

- A. Benefits
  - 1. All body weight exercises – no equipment needed
  - 2. Develops functional strength
  - 3. Better balance and movement control
  - 4. Reduce impact on joints
  - 5. Workout anywhere
- B. Training Considerations
  - 1. Fitness/Cardio (Aerobic and Anaerobic)
  - 2. Impact and non-impact vs Strength, Aerobic or Anaerobic vs Plyometric or Acceleration/Agility
  - 3. Combo/Full Body - balance
  - 4. Small Group
  - 5. Single Station
  - 6. Multi-station
- C. Training Foundations
  - 1. Training Component Combinations
  - 2. Overload Volume vs intensity
  - 3. Core – always
  - 4. MultiJoint Exercises – good choices
  - 5. Technical - progress – less to more
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  - 7. Total reps, time and rounds
  - 8. Order of exercises
  - 9. Adjusting the work to rest ratios
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  - 11. Corrective Exercises/Rehab
  - 12. Intensity vs Form – Don't sacrifice form for reps!!
  - 13. Work to Rest Ratios
- D. Programming Considerations
  - 1. AMRAP
  - 2. For Time
  - 3. Super Sets
  - 4. EMOM
  - 5. Tabata

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- 6. Standard Circuit (Total Rounds)
- 7. Traditional (Sets & Reps)
- E. Review, demonstrate and practice circuit training with instructional cues using the following modes
  - 1. Body weight
  - 2. Resistance based
  - 3. Suspension Training
  - 4. Combination
- F. **Adult Learning/Motivation Activity** – Students will design and complete a hands-on demonstration of a circuit routine which includes calisthenics.
- G. Students will be assessed by demonstrating proficiency in the instruction of a circuit training routine and its various components.

**XVI. Nutrition**

- A. Goals of proper nutrition
- B. Relationship of nutrition and training - based on multiple factors with various impact on training
  - 1. Energy intake
    - a. Inadequate
    - b. Excess
  - 2. Food composition
  - 3. Macro nutrient ratios
  - 4. Timing of intake
  - 5. Supplements
- C. Macro nutrition (Protein, Carbohydrate and Fat) requirements necessary for physical training and physical performance
  - 1. Purpose
  - 2. Composition
  - 3. Frequency and timing
  - 4. Ratios
  - 5. Healthy tips
- D. Pre workout nutrition
- E. During workout nutrition
- F. Post workout nutrition
- G. Daily Nutrition and Performance
  - 1. Food choices and Macro Nutrients
  - 2. Meal options
- H. Special Consideration
- I. Meal Choices
- J. Meal Prepping
- K. Vitamins/Minerals and Training
- L. Hydration and Exercise
  - 1. Water –
    - a. Purpose
    - b. Considerations
- M. Supplements

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1. Guidance

**XVII. Power/Plyometric, Acceleration, Speed and Agility Training**

A. Training applications

1. Benefits – the advantaged gained from this type of training
2. Importance – the significance and value of this type of training
3. Foundation – the training applications associated with this type of training
4. Execution – the course of action and instructional cues needed for this type of training
5. Programming – the parameters necessary to carry out this type of training

B. **Adult Learning/Motivation Activity** – Students will design and complete a hands-on demonstration of a circuit that includes two of the following training modalities: Power/Plyometric, Acceleration, Speed and Agility.

**XVIII. Injury Prevention, Recognition, Assessment and Recovery**

G. Injury Prevention

1. Warm-up/warm down and remain flexible
2. Strength and/or Cross train
3. Avoid dramatic training changes in volume and intensity
4. Replace worn shoes, equipment
5. Year-round conditioning and consistency
6. Environment and training on even surfaces
7. Let old injuries completely heal

H. Injury Recognition

1. Increased temperature
2. Increased redness
3. Swelling
4. Pain
5. Loss of Function

I. Injury Assessment

1. Is there pain, tingling, numbness and/or stiffness?
2. Is the pain dull, sharp, deep or superficial?
3. What was the mechanism of how the injury occurred?
4. Was the injury acute or chronic?
5. Was the injury associated with a pop or click?
6. Was the injury from a pre-existing condition?

J. Injury recovery - Explain the RICE methodology

1. Rest
2. Ice
3. Compression
4. Elevation

K. Common injuries and association to RICE

1. Plantar Fasciitis
2. Shin Splints

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3. Ankle/Knee Sprains
4. Muscle strains/pulls
5. IT Band
6. Low Back/Sciatic Nerve

- L. **Adult Learning/Motivation Activity** – Students will complete a writing assignment associating injury Prevention, Recognition, Assessment and Recovery principles with a scenario
- M. Students must demonstrate proficiency and accuracy in the above topics.

**XIX. Safety Protocols**

- A. Recognize the content of POST Safety Guidelines
  1. Facility
  2. Equipment
  3. Instructor
  4. Staff-to-student ratios
  5. Presentation
  6. Specific safety rules
  7. Reporting requirements

**XX. Legal Issues**

- A. Understand physical conditioning and testing related legal issues
  1. Personal injury lawsuits
  2. Negligence
  3. Standards of practice
  4. Practice of medicine without a license

**XXI. POST Physical Training (PT) Requirements**

- A. Identify reference material containing POST requirements
  1. Training and Testing Specifications
  2. POST Administrative Manual
  3. Course Binder
  4. Basic Course Informational Web Site
- B. Explain important requirements
  1. PT Scheduling
  2. Modified PT
  3. Conditioning Goals
  4. Testing
  5. Learning Activities
  6. Program Modification

**XXII. Leadership**

- A. Recognize characteristics of winners
  1. Commitment / consistency
  2. Sacrifice / discipline
  3. Focus / intensity
  4. Psychology of Winning

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- B. Explain the characteristics and elements of leadership
  - 1. Leading by influence vs. authority
  - 2. Leaders are made, not born
  - 3. Traits of a leader
  - 4. Responsibilities of the leader to the team
  - 5. Leadership principles
  - 6. How leaders are created
  - 7. Setting the standards
  - 8. Empowering the leaders to lead
- C. Explain leadership techniques
  - 1. More is expected from the leader
  - 2. Leading from the front
  - 3. Encourager vs. discourager
  - 4. Communication
  - 5. Focus
  - 6. Positive and negative reinforcement
  - 7. Words and mental pictures
  - 8. Excellence
  - 9. Building leaders – creating winners
  - 10. Winners and champions

**XXIII. Testing**

- A. Categories
  - 1. Post Required
  - 2. Post Approved
  - 3. Internal Approved
- B. Parameters
  - 1. Job or Task related
  - 2. Standards
  - 3. Legal requirements
  - 4. Age and gender requirements
  - 5. Scientifically valid
  - 6. Reliability
  - 7. Selection
  - 8. Administration
  - 9. Preparation
- C. Job Factors
  - 1. Sustained Pursuit
  - 2. Sprints
  - 3. Dodging
  - 4. Jumping & Vaulting
  - 5. Crawling
- D. Testing Factors
  - 1. Legal
  - 2. Age-Gender
  - 3. Validity

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4. Reliability
5. Standards
6. Variables
7. Administration
8. Preparation
9. Field Tests

**XXIV. Performance Evaluation Techniques**

- A. Course participants will be learning evaluation performance techniques during the learning activities held throughout this course. The techniques include:
  1. Cardiovascular performance evaluation protocols
  2. Cardiovascular Intensity evaluation:
    - a) RPE
    - b) heart rate monitoring
  3. Strength training performance evaluation protocols
  4. Strength training exercise form evaluation

**XXV. Program Design**

- A. Physical training instructors will work in teams to develop an Academy PT program encompassing exercise prescriptions at various stages of the Academy and including the relevant elements of the PT instructor course.
- B. **Adult Learning/Motivation Activity** – Students will complete a writing assignment associating exercise progression with a workout routine scenario.
- C. Students will be assessed by demonstrating proficient knowledge and completing proper technique.

**XXVI. Final Exam Scoring and Evaluations**

- A. Final Written Exam – (Adult Learning Activity)
- B. Exam Scoring
- C. Course Evaluations
- D. Certificates