

MOTORCYCLE TRAINING INSTRUCTOR
Santa Clara County, Office of the Sheriff – 2270
CCN: 21540 | POST Certification II | Reimbursable Plan IV | 80 Hours

COURSE GOAL:

The course is designed to train experienced motorcycle officers to serve as instructors in teaching safe patrol motorcycle skills. This course prepares the student to teach all facets of motorcycle operations relating to cone patterns, evasive maneuvers, braking control, and solo and pairs riding. Students will also learn adult learning theories and training techniques. Additionally, the course will provide the trainee with the minimum topics of Driver Training/Awareness required in the POST Perishable Skills Training Program including: Basic Driving Principles, Legal and Moral Aspects, Defensive Driving and Maneuvering Course Exercises. This course provides updated legislative content of Penal Code Section 835a.

The course consists of a hands-on/practical Driver Training/Awareness for in-service officers. Students must demonstrate an ability to teach motorcycle riding skills.

MOTORCYCLE DRIVER TRAINING/AWARENESS

Minimum Topics/Exercises:

- a. Safety Policy/Orientation
- b. Policy, legal and moral issues
- c. Adult Learning Theory
- d. Vehicle Dynamics
- e. Defensive driving
- f. Intersections exercise(s)
- g. Backing/parking exercise(s)
- h. Behind the wheel exercises to improve driving skills – judgment and decision making
- i. Class Exercises, Student Evaluation, and or optional Testing

COURSE OBJECTIVES:

The trainee will:

1. Demonstrate knowledge of their Motorcycle Driver Training/Awareness skills and techniques
2. Demonstrate a minimum standard of psychomotor skills with every technique and exercise to include:
 - A. Judgment and Decision Making
 - B. Policy, Legal and Moral Issues
 - C. Basic Driving Principles and Vehicle Dynamics
 - D. Basic Motor skills

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- E. Patrol procedures for on/off road, gas/zero emission motorcycle
- F. Defensive Driving

Minimum standards of performance shall be tested by an instructor observing the trainee during their performance of each technique and exercise. If the trainee does not meet minimum standards, as established by the presenter, remediation will be provided until the standard is met.

EXPANDED COURSE OUTLINE

- I. Registration and orientation
 - A. Forms completion
 - 1. Rosters and other POST forms
 - 2. Evaluation forms
 - B. Facility use
 - 1. Safety and communication concerns
 - 2. Facility orientation
- II. Instructional course considerations
 - A. Purpose
 - 1. Standardize Motorcycle training
 - 2. Reduce collisions and liabilities
 - 3. Improve motorcycle operating efficiency
 - 4. Increase awareness of using good judgment and decision making
 - B. Manual familiarization
 - 1. Emphasize importance of knowing material prior to training
 - a. Designed to prepare the instructor to present Motorcycle instruction
 - b. Reference guide
 - c. Establish credibility with student
 - 2. Review key elements of manual

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- a. Chapter by chapter summary
 - b. Review during exercise diagrams

- C. Current Motorcycle courses
 - 1. Motorcycle Orientation
 - 2. Basic Motorcycle Officer
 - 3. Dual Sport / Off-Road Motorcycle Officer
 - 4. Tactical Motorcycle Officer
 - 5. In-Service
 - 6. Motorcycle Training Instructor
 - 7. Motorcycle Escort Procedures

- D. Collision statistics
 - 1. Collision statistics
 - a. Primary collision factors
 - b. Statewide statistics

 - 2. Contributory factors
 - a. Psychological factors
 - b. Physiological factors
 - c. Environmental factors
 - d. Vehicular factors

 - 3. Collision classifications
 - a. General classifications
 - b. Agency policy

- E. Legal issues and liabilities
 - 1. California codes
 - a. Vehicle Code
 - b. Penal Code
 - i. Penal Code Section 835a
 - c. Evidence Code

 - 2. California case law

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- a. Summary of cases
 - b. Case law decisions
 - c. Impact on law enforcement
 - 3. AB392 and SB230 / Use of Force Legal Issues
 - a. Emphasis on de-escalation / Tactical repositioning
 - b. Emphasis on duty to intervene
 - c. Policy Considerations / Changes
 - d. Duty to warn
 - e. At Risk Populations
- F. Instructional equipment
- 1. Audio-visual equipment
 - 2. Visual aids
 - 3. Motorcycles
 - 4. Communications and electronic equipment
 - 5. Additional equipment for high-speed course
- G. Testing and evaluation techniques
- 1. Written examinations
 - a. In-house written test
 - 2. Practical exercises
 - a. Skills
 - b. Knowledge
 - c. Attitude
 - d. Judgment
 - e. Tactics
 - f. Motorcycle control
 - 3. Remediation
 - a. Improve student performance
 - b. Objective documentation
 - 4. Instructional evaluation considerations
 - a. Four-step teaching method

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- b. Riding experiences
- c. Remedial solutions
- d. Feedback
- e. Verbal communication skills
- f. Honest and objective ratings
- g. Written communication skills
- h. Discipline, remediation, and termination documentation

5. Instructor development

- a. Design new exercises
- b. Set up, demonstration, and ride exercise
- c. Teach exercise
- d. Staff evaluation

III. Riding Course

A. Course management

- 1. Site selection
 - a. Site preparation
 - b. Resources
 - c. Realistic course configurations
- 2. Equipment and materials
 - a. Motorcycles
 - b. Course markers
 - c. Equipment resources
- 3. Safety and control
- 4. Scheduling
 - a. Frequency
 - b. Record keeping
- 5. Format and hours
- 6. Contingency planning
 - a. Alternate training sites

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- b. Alternate instructors
 - c. Backup motorcycles
 - 7. Instructor ratio (minimum 1 to 5)
- B. Motorcycle care and maintenance
 - 1. Abuse
 - 2. Maintenance
 - 3. Pre-operational inspection
- C. Defensive riding techniques
 - 1. Defensive riding components
 - a. Rider
 - b. Motorcycle
 - c. Environment
 - 2. Defensive riding tactics
 - a. Space cushion
 - b. Intersections
 - c. Freeway riding
 - d. Stopping
 - e. Lane changes
- D. Adverse operating situations
 - 1. Skids
 - 2. Brakes
 - 3. Environmental
 - 4. Other factors
- E. Motorcycle dynamics
 - 1. Methods of control
 - a. Steering
 - b. Braking
 - c. Throttle
 - d. Clutch

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- e. Eye position

- F. Motorcycle control techniques
 - 1. Steering control
 - 2. Throttle control
 - 3. Clutch control
 - 4. Speed judgment

- E. Braking
 - 1. Braking dynamics
 - 2. Controlled braking
 - 3. Anti-lock braking
 - 4. Threshold braking

- F. Roadway position
 - 1. Turn classifications
 - 2. Control considerations
 - 3. Speed control
 - 4. Formulas and reference tables

- G. Emergency riding operations
 - 1. General information
 - 2. Passing
 - 3. Riding considerations
 - 4. Siren audibility
 - 5. Riding tactics

- H. Motorcycle pursuit operations
 - 1. Pursuit philosophy
 - 2. Pursuit guidelines (13519.8 PC)
 - a. When to initiate a pursuit
 - b. Number of vehicles involved and responsibilities
 - b. Communications
 - c. Supervisory responsibilities

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- d. Riding tactics
- e. Speed considerations
- f. Air support
- g. Termination
- j. Capture of suspects
- k. Inter-jurisdictional considerations
- l. Reporting and post-pursuit analysis

I. Student riding skill development

1. Lesson plan for individual riding exercises

- a. Materials needed
- b. Goals and objectives
- c. Procedure to ride course
- d. Evaluation

2. Selection of exercises from following categories (according to needs)

- a. Cone Patterns
- b. Skid control
- c. Collision avoidance
- d. Braking
- e. Solo / Pair riding
- f. Emergency response riding
- g. Pursuit riding
- h. Judgment and decision making

3. Exercises may be organized in continuous loop to make a skills course

- a. Eliminator pattern
- b. Cone Pattern #1
- c. Cone Pattern #2
- d. Tom Ryan Express (TREX)
- e. Decel 180
- f. Clover leaf

J. Motorcycle Attire:

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- A. Uniform appropriate for falls
 - 1. Provide sufficient protection
 - 2. Appropriate for weather

- B. Gloves
 - 1. Provides sufficient protection
 - 2. Appropriate for the weather
 - 3. Must not interfere with motorcycle controls

- C. Footwear
 - 1. Boots which cover ankles.

- D. Eyewear
 - 1. Safety lenses
 - 2. Scratch free
 - 3. No obstruction to peripheral vision.
 - 4. Appropriate to lighting conditions.

- E. Helmet
 - 1. D.O.T. approved
 - 2. Good condition
 - 3. Properly fitted
 - 4. Properly strapped

- II. Motorcycle components: (pre-ride checklist)
 - A. Controls
 - 1. Cables/Hoses
 - a. Brakes, clutch, & throttle

 - B. Chain / belt
 - 1. Lubricated/adjusted properly

 - C. Safety equipment

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1. All required lighting
 - a. Headlight(s)
 - b. Tail & brake lights
 - c. Turn signals
 - d. Auxiliary lights
 2. Horn
 3. Mirror(s)
 4. Brakes
- D. Fluids
1. Oil
 2. Antifreeze
 3. Fuel
- E. Tires

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1. Matching:
 - a. Correct matching of front and rear tires is critical to obtaining optimum performance and handling
 - b. Use the tires recommended by the motorcycle manufacturer to reduce/negate the possibility of high speed wobble
 - c. Never mount a rear tire in front or vice versa. By combining a new tire with a worn rear tire you may cause handling instability

2. Air Pressure: shocks
3. Air Pressure: tires
 - a. Check air pressure while tires are cold

4. Use pressures recommended by the motorcycle manufacturer and never exceed the maximum pressure stamped on the tire sidewall
 - a. Front & rear tires will not necessarily have the same pressure
 - b. Air pressure too low can build up excessive heat which may result in:
 - 1) Adversely affect cornering
 - 2) Reduction of the tire's life
 - 3) Result in premature sidewall fatigue cracks
 - c. Too high an air pressure could result in a blowout, which might not occur when impacting an object while operating within pressure guidelines

5. Tread depth:
 - a. Tires with a tread depth of 1/32nd inch or less must be discarded and replaced immediately

6. Tire failure:
 - a. React quickly
 - 1) Maintain a tight grip on the handlebars and maintain balance.
 - 2) Steer as straight as possible

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- 3) Use only the brake to the tire that is not affected by the flat to slow motorcycle until slowly exiting the roadway
 - 4) A front flat will cause the steering to feel “heavy” and sluggish.
- b. A rear flat will make the motorcycle feel like the rear tire is swinging from side-to-side.

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- III. Mounting / dismounting motorcycle.
 - A. Mount from either the high side, or low side
 - 1. Just have a reason for which side you choose
 - a. Dictated by conditions.

IV. Adult Learning

- A. Adult Learning Techniques
 - 1. Visual Learner
 - a. Power points
 - b. Video clips
 - c. Visual media
 - 2. Auditory Learner
 - a. Lecture
 - b. Question/answer
 - c. Discussions
 - 3. Kinesthetic learner
 - a. Creative activities
 - b. Discussion groups
- B. Adult Learning Principles
 - 1. Adults learn to create change
 - a. Change in skills
 - b. Change in behavior
 - c. Change in knowledge level
 - d. Change in attitudes
 - 2. School age learning vs Adult learning
 - a. Degree of motivation
 - b. Amount of previous experience
 - c. Level of engagement while learning

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d. How learning is applied

V. Riding the public roadway

A. Lane positions

1. Be seen.

a. Use headlight(s)

b. Don't ride in blind spots

1) Mirrors on large trucks, *etc.*

c. Don't depend on eye contact with other drivers

1) If a car wants to enter your part of the lane, it probably will

d. Whenever possible, use a lane position that will afford the best view of approaching traffic

e. Be aware of the oily strip in the middle of a lane

1) Not usually a concern unless wet

f. Consider lane position at toll booths due to grease accumulation

g. Avoid surface hazards

1) After stopping behind traffic, and before starting again, consider anti-freeze spills, *etc.*

a) Start slow until front vehicle provides sufficient surface view for objects

h. Communicate your intentions

1) Especially lane changes

i. There is no best lane position (dictated by conditions)

j. Always provide an escape route!

VI. Surface appraisal

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- A. Appropriate braking for conditions, *etc.*
 - B. Various surface concerns
 - 1. Bumps, dips, crowns, steep slopes, *etc.*
 - 2. Foreign objects
 - a. Mufflers, large rocks, lumber spills, *etc.*
 - 3. Gravel, mud, sand, wet concrete, antifreeze, painted lines
 - 4. Steel surfaces
 - a. Bridges, temporary metal covers, *etc.*
 - 5. Rain grooves
 - a. Relax, they are safe to ride over; the slight wobble motion of the motorcycle is normal
 - 6. Railroad tracks
 - a. Cross with as much right angle as possible
 - 7. Wet leaves
 - a. Can be very dangerous
 - 1) Commonly found on curving mountain roads
 - 8. Dirt roads
 - C. Consider appropriate braking techniques for above surfaces
 - D. Speed reduction might be necessary
 - E. Consider another route for:
 - 1. Extended construction zones, *etc.*
- VII. Lane sharing / splitting
- A. Legal in California (not all states)
 - B. Considerations

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1. Riding between rows of stopped or moving cars leaves you vulnerable to drivers wanting to:
 - a. Change lanes or pass
 - b. Get angry at you and squeeze the lane
- C. You can be cited for unsafe speed for conditions
 1. Generally, don't split any faster than 10 mph past any other vehicle
 2. At no time should you split if vehicles are traveling 35 mph, or faster.

VIII. Braking

- A. Generally, use both brakes for all stopping. (front brake provides 70-75% of braking ability.)
 1. Front brake use is mitigated by:
 - a. Slow turns/maneuvers
 - b. Roadway moisture
 - c. Roadway debris
 2. Press the foot brake, don't press too hard
 - a. Could result in skid
 3. Squeeze the front brake, never grab it
 - a. Could cause a front wheel lock-up
 4. Discuss ABS braking systems
 - a. Possibly failure & results.

IX. Night riding

- A. More difficult to see, and to be seen by others
 1. Reduce your speed
 2. Increase Distance

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- a. Distances are harder to judge at night than during the day. Your eyes rely upon shadows and light contrasts to determine how far away an object is and how fast it is coming. These contrasts are missing or distorted under artificial lights at night
 - 3. Open up a three-second following distance or more. And allow more distance to pass and be passed
 - 4. Watch & use cars ahead
 - a. The headlights of the cars ahead can give you a better view of the road than even your high beam can
 - 5. Use your high beam whenever possible
 - 6. Consider lane position
 - a. Change to whatever portion of the lane is best able to help you see, be seen, and keep an adequate space cushion
- X. High speed wobble
- XI. Practical exercises and teach-backs
 - A. All practical exercises will be practiced on paved roadways. Many of the exercises can also be conducted in selected dirt areas, and other difficult terrain so as to acclimate the operator to proper surface appraisal and varying riding techniques
 - B. All exercises shall be demonstrated by the instructor(s) prior to the student's demonstration of the exercise
 - C. All exercises will require the operator to read each pattern and demonstrate proper wheel placement in order to attain an error free negotiation. While occasional errors are expected, the advanced operator is expected to demonstrate an increasing proficiency in each exercise
 - D. All patterns are designed to reinforce the operators ability to safely accelerate, turn, stop, and shift (up & down) in extreme situations via proper applications
 - E. The following standardized patterns can be utilized: (see P.O.S.T. requirements)
 - 1. Offset cone weave

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- a. The student will learn & maintain proper eye position
 - 1) By looking ahead at the high horizon
 - b. Ensures that the student “hinges” properly at waist during each weave transition
 - c. Identifies the student with eye positioning and improper hinge concerns
 - d. Teaches proper front wheel placement for turning movements
2. Eliminator exercise
- a. The student will learn & maintain proper eye position
 - b. Identifies student’s tendency to favor either right turns over left turns, or *vice versa*
 - 1) Allows instructor to take immediate remedial action
 - c. Teaches student to make quick, smooth turn transitions
 - d. Teaches proper front wheel placement for turning movements
3. Flat box exercise
- a. Provides training instrument for circles, u-turns, and figure eights
 - 1) The student will learn & maintain proper eye position
 - 2) Identifies the student with eye positioning concerns and ensures immediate corrective action
 - b. Teaches proper front wheel placement for turning movements
4. Flat pattern #1 exercise
- a. Teaches student the proper transition of power to vehicle movement via the proper use of clutch, throttle, accelerator, and rear brake
 - b. Insures that the student maintains proper eye position
 - c. Teaches slow speed balance

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- d. Teaches proper front wheel placement so as to effect maximum tight turn movements.
- 5. 4-way intersection weave
 - a. The student will learn & maintain proper eye position
 - b. Identifies student's tendency to favor either right turns over left turns, or *vice versa*
 - 1) Allows instructor to take immediate remedial action
 - c. Teaches student to make quick, smooth turn transitions
 - d. Teaches proper front wheel placement so as to effect maximum tight turn movements
- 6. 180 degree deceleration exercise
 - a. The student will learn proper braking and downshifting techniques from varying speeds
 - 1) Proper application of front & rear brake without lock-up
 - 2) Hazards associated with lock-up of front brake
 - 3) Hazards associated with releasing locked rear brake during rear end slide
 - b. The student will learn & maintain proper eye position, coupled with maintaining a high horizon
 - c. The student will learn proper wheel placement so as to effect maximum tight turns
- 7. Flat pattern #2 exercise
 - a. Teaches student the proper transition of power to movement via the proper use of clutch, throttle, and rear brake
 - b. Insures that the student maintains proper eye position
 - c. Teaches slow speed balance
 - d. Teaches proper front wheel placement so as to effect maximum tight turn movements

- 8. Incline / decline exercises

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- a. The student will learn the proper transition of power to vehicle movement via the proper use of clutch, throttle, accelerator, and rear brake while riding on paved inclined & declined roadways
 - 1) The exercises will incorporate circles, u-turns, & figure eights
 - b. The student will learn & maintain proper eye position
 - c. Teaches slow speed balance
9. 90 degree pull-outs
- a. The student will learn to make immediate right & left turns with forward movement limited to a fixed distance
 - 1) To be accomplished with free-space on either side of the student, and with motorcycles on both side of the student
 - b. The student will learn the proper transition of power to vehicle movement via the proper use of clutch, throttle, accelerator, and rear brake
 - c. The exercise will incorporate incline and decline riding
 - d. The student will learn & maintain proper eye position
 - e. Identifies student's tendency to favor either right turns over left turns, or *vice versa*
 - 1) Allows instructor to take immediate remedial action
 - f. Teaches student to make quick, smooth turn transitions
10. 40 mph deceleration exercise
- a. The student will learn to make emergency turns or stops to avoid hazards in the roadway
 - b. The student will learn proper braking and downshifting techniques from varying speeds
 - 1) Proper application of front & rear brake without lock-up
 - 2) Hazards associated with lock-up of front brake

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- 3) Hazards associated with releasing locked rear brake during rear end slide

XII. Course review

- A. Review / Student evaluations

XIII. Conclusion

- A. Review / evaluations