

EXPANDED COURSE OUTLINE

Draeger Alcotest Operations

I. LEARNING NEED

30 Minutes

Peace officers must become familiar with the use, policy and procedures of forensic alcohol programs.

LEARNING OBJECTIVES

- A. Describe Draeger Alcotest 9510
 - 1. What it is
 - 2. When is used
- B. Identify purpose of the Regulatory Aspects of Forensic Alcohol Programs
 - 1. Title 17 of the CA code of regulations
 - 2. The CA Department of Health Services
- C. Identify the role of the Crime Laboratory
 - 1. Maintenance/repair of Breath Testing Instruments
 - 2. Maintenance of records
 - 3. Training and Certification of Operators
 - 4. Four-deputy application
 - 5. Testimony in court as an expert
 - 6. Lab responsibility does NOT include conducting breath tests on subjects
- D. List the role of the Officer
 - 1. Administer breath tests
 - 2. Follow all procedures and instructions from the laboratory
 - 3. Keep all records as specified
 - 4. Testimony in court on the method and manner in which test was administered

II. LEARNING NEED

20 Minutes

Peace officers must understand the options for alcohol testing as well as the advantages and disadvantages of blood, urine and breath specimens .

LEARNING OBJECTIVES

- A. Identify Advantages and disadvantages of various tests for alcohol.
 - 1. Blood Advantages/Disadvantages
 - 2. Urine Advantages/Disadvantages
 - 3. Breath Advantages/Disadvantages

III. LEARNING NEED

50 minutes

Peace officers must become familiar with the theory and function of the Draeger Alcotest 9510

LEARNING OBJECTIVES

- A. Identify Draeger Alcotest 9510 components
 - 1. Components
 - 2. When is it employed
- B. State the theoretical basis of breath alcohol testing
 - 1. Pharmacology of alcohol
 - 2. Primary Route of elimination is chemical conversion in liver by enzymes
 - a. Alcohol+Enzymes=Carbon Dioxide+water
 - b. Once drinking has ceased and maximum BAC has been attained, the BAC will drop ~0.02% per hour
- C. Describe Physiology of Draeger Alcotest 9510 testing
 - 1. Lungs consist of small passageways that end at the alveoli (deep lung tissue)
 - 2. The breath in the channels leading to the alveoli (throat, trachea, bronchial tubes, etc.) contain various mixtures of room air and “deep lung air”
 - 3. “Deep lung air” must be sampled as it contains the highest alcohol concentration and is the most accurate reflection of the blood alcohol concentration
- D. Describe how the Draeger Alcotest 9510 works.
 - 1. All organic molecules absorb Infrared Radiation (IR)
 - 2. The more alcohol present, the more IR radiation is absorbed
 - 3. Vital signs records/Rehabilitation lines
 - 4. Electrochemical (fuel cell) sensor
 - 5. Alcohol reacts with platinum
 - 6. Electricity produced under appropriate conditions. The more alcohol present, the more electricity produced
- E. Practice How to operate Draeger Alcotest 9510
 - 1. Initial State
 - 2. Operation
 - 3. Reading results

IV. REQUIRED LEARNING ACTIVITY

2 Hours

- A. Instructor will demonstrate how to properly execute the Draeger Alcotest 9510 and common errors in operation.
- B. Students will demonstrate proper use of the Draeger Alcotest 9510.

Hourly Distribution

<u>Time</u>	<u>Topic</u>
0800-0830	Describe Draeger Alcotest and roles of peace officer & criminalist in its use
0800-0850	Describe various methods of testing subjects for alcohol.
0850-0900	Break
0900-0950	Examine components of the Draeger Alcotest 9510 and its functional operation
0950-1000	Break
1000-1030	Demonstrate use of Draeger Alcotest 9510 and common errors in operation.
1030-1200	Participants will demonstrate how to properly execute the Draeger Alcotest 9510