Santa Barbara County Sheriff's Office
Crime Scene Investigation / Fingerprint Section
Training Manual

INTRODUCTION

The primary purpose of this training guideline is to provide uniform and formalized training for the Santa Barbara County Sheriff's Department personnel functioning as Forensic Technicians/Forensic Detectives.

Trainees in the Crime Scene Unit are required to participate in and pass a basic Crime Scene Investigation course given by organizations such as the California Criminalistics Institute (CCI), the Federal Bureau of Investigation (FBI), or other recognized organizations. For the Fingerprint training module, they also attend outside courses such as those offered by the California Criminalistics Institute and other providers generally accepted by the Fingerprint Examination community.

The training manual for the Crime Scene Investigation/Fingerprint Section consists of two separate training programs—the Crime Scene Investigation (CSI) Training Manual (composed of two modules) and the Fingerprint Training Manual. The CSI training manual consists of a module covering general crime scene processing techniques and evidence collection. The second module covers the collection and processing of latent prints at crime scenes and in the laboratory. Training in the modules can be undertaken in parallel as well as in series. Completion of both modules constitutes completion of the CSI training program.

The Fingerprint training module is usually undertaken after completion of Crime Scene Investigation training, but the order of training is at the discretion and direction of the supervisor of the section.

Trainees must successfully complete the in-house crime scene-training program directed by the supervisor of the section. A senior member of the unit may be assigned as the primary trainer during portions of the program, but the final acceptance of the completion of this training is the responsibility of the Forensics Unit supervisor. This training course addresses equipment, procedures, policy, testimony, safety and security issues relevant to the Santa Barbara County Sheriff's Department.

All participants in the in-house crime scene training must complete each training module, unless that individual has been waived from a particular module due to experience. Should a trainee experience difficulty in completing a module, evaluation of any deficiency (s) will be made for the participant and a determination made as to what further work needs to be done by the participant to satisfactorily complete that module. If the further work corrects the deficiency then the participant may proceed to the next module. If further work in that module fails to correct the deficiency, then the CSI/FP Unit supervisor will meet with the participant to determine a course of action.

A portion of the training period may require that the trainee devote some off-duty time to study materials and information given to them. Trainees should be able to show the ability to conduct basic functions within the unit while in the probationary period.

A crime scene training binder containing the relevant training material put together in a modular training format will be provided to trainees at the beginning of their training. This training binder will include a syllabus clearly describing the knowledge and skills needed to complete the training. The time provided for each module will be dependent on material covered, number of individuals participating and resources available at time of training.

In addition to the training binder, practical demonstrations of the techniques and specific equipment used by this laboratory at crimes scenes will be demonstrated. Each section of the training module requires the successful completion of an oral or written examination and an appropriate competency test.

As a participant satisfactorily completes a training module section, the individual will be given a “Statement of Completion”, noting what was accomplished, the date(s), and that the participant has successfully completed the module section. This statement will be signed and dated by the Forensics Unit supervisor and will be kept on file for review in the individual’s training binder. A copy will also be provided to the participant for his/her personal records.

When the entire in-house crime scene training program has been completed, and the instructors are satisfied that the participant understands the principles, applications and limitation of the methods, procedures, and equipment used at crime scenes, a memorandum of completion of training will be generated by the Forensics Unit supervisor and will be kept on file for review in the individual’s training binder. A copy will also be provided to the participant for his/her personal records.

As members of the Forensics Unit examiner staff, each member of the Crime Scene Investigation/Fingerprint section is required to participate in continuing education. Members are encouraged to participate in crime scene training courses when offered, attend study group meetings on crime scenes and to discuss their recent experiences at crime scenes with other members of the section. An open dialogue between members of the section will ensure that any problems encountered during the processing and other activities of the section will be addressed.

CRIME SCENE INVESTIGATION TRAINING MANUAL

Module 1. Crime Scene Investigation

General Considerations

The purpose of the crime scene investigation is to help establish what happened and to identify the responsible parties. This is accomplished by carefully documenting the conditions at a crime scene and recognizing all relevant physical evidence. The ability to recognize and properly collect physical evidence is often times critical to both solving and prosecuting criminal cases.

It is also important to determine the full extent of a crime scene. A crime scene is not merely the immediate area where a body is located or where an assailant concentrated his activities but can also encompass a vehicle and access/escape routes.

Although there are common items that are frequently collected as evidence (fingerprints, shoeprints, or bloodstains), literally any object can be physical evidence. Anything that can be used to connect a victim to a suspect or a crime scene is relevant physical evidence. Sometimes the only remaining evidence is microscopic evidence consisting of hairs, fibers, or other small traces left behind at the scene, or, trace evidence taken away by the parties involved in the crime.

Notification:

Requests for a Forensic Technician/Forensic Detective are typically made through the Sheriff's Communication Center by the Watch Commander or Dispatch Supervisor or Criminal Investigations Supervisor, however, the Forensics Unit Supervisor, or a Criminal Investigations Sergeant (refer to SBSO Lexipol policy for such requests) may also request Forensic Technician(s)/Forensic Detective(s) to respond to a crime scene.

Examination of the Crime Scene:

Upon arriving at the scene, the Forensic Technician/Detective must check in with the SBSO Sergeant/Detective/ or Deputy in charge. After establishing who is in charge of the investigation, the Forensic Technician /Detective and the deputy in charge shall conduct an initial walkthrough of the crime scene. The purpose of the walkthrough is to evaluate potential evidence along the "trail" of the crime. The trail is that area in which all apparent actions associated with the crime took place. The trail is usually marked by the presence of physical evidence. This may include the point of entry, the location of the crime, and the point of exit. While conducting the walkthrough, note the location of evidence and mentally outline how the scene will be examined. In some cases, a walkthrough may

become secondary if potential evidence is in danger of being destroyed, such as shoeprints or gunshot residue that can be fragile and easily destroyed or lost if not collected immediately. In those cases the evidence should be preserved or documented and collected as quickly as possible.

Documenting the Crime Scene

Video-documentation of the Crime Scene:

A video camera is the first step in documenting a crime scene and will be done when the Forensic Technician/Detective deems it appropriate or at the request of detectives. Video-documentation can provide a perspective on the crime scene layout that cannot be as easily perceived in photographs and sketches. It is a more natural viewing medium to which people can readily relate, especially in demonstrating the structure of the crime scene and how the evidence relates to the crime. Before taping, the area being taped should be cleared of all personnel. Unless a walkthrough is being conducted with a witness, victim or suspect, sound should not be used during taping. If sound is to be used, any people in the area should be forewarned that taping is about to commence, and that they should remain silent for the duration of the taping.

The key to good video-documentation is slow camera movement. Video-documentation should begin with a general overview of the scene and surrounding area. Documentation should continue throughout the crime scene using wide angle, close up, and even macro shots to demonstrate the layout of the evidence and its relevance to the crime scene. If the video-documentation is to be done within a residence, the camera should demonstrate how the pertinent rooms are laid out in relation to each other and how they can be accessed. At the completion of the video-documentation, the original scene video should be uploaded into and kept on file in the SBSO Forensics Unit Digital Imaging System under the appropriate case number

Still Photography:

Still photography is mandatory when documenting a crime scene. The photographing of the crime scene should begin with wide-angle photos of the crime scene and the surrounding areas. When photographing the general overall scene, the photos should show the layout of the crime scene and the overall spatial relationships of the various pieces of evidence to each other. The next set of photos should be medium range to show the relationships of individual pieces of evidence to other pieces of evidence or structures in the crime scene. Finally, close up photos should be taken of key pieces of evidence. A ruler should be photographed with items where relative size is important or on items that need to have one-to-one comparisons done at a later date. The objects should first be photographed as is, and then photographed with the ruler. It is important that when doing comparison photography

that the ruler is on the same plane as the object being photographed and that the camera lens is parallel to the item of evidence.

Crime Scene Sketching:

The final phase in documenting the crime scene is making a crime scene sketch. The drawback of photographs is that they are two-dimensional representations of three-dimensional objects. As a result, most photographs can distort the spatial relationships of objects, causing items to appear closer together or farther apart than they actually are. If the spatial relationship of the evidence is important, or if something needs to have proportional measurements included in it for calculations (such as bullet trajectory angles, accident reconstruction, etc.) then a sketch must be made of the crime scene.

A sketch is usually made of the scene as if one is looking straight down (overhead view) or straight ahead (elevation view) at the crime scene. Using a tape measure or other measuring devices, measurements are taken at the crime scene of the distance between objects and/or structures at the crime scene. Two measurements taken at right angles to each other (baseline) or from two reference points (triangulation) will usually suffice in placing the objects where they correctly belong in the sketch.

In cases where the crime scene is extensive, the SBSO Traffic Unit can be requested to assist with obtaining measurements for a crime scene diagram.

Collection and Preservation of Evidence

Once the crime scene has been thoroughly documented and the locations of the evidence noted, then the collection can begin. Whenever possible the same person should collect all evidence at the scene. The collection process will usually start with the collection of the most fragile or most easily lost evidence. Special consideration can also be given to any evidence or objects that need to be moved. Collection should then continue along the crime scene trail or in some other logical manner. Photographs should continue to be taken if the collection of evidence is revealing layers of evidence that was not previously documented because it was hidden from sight.

Most items of evidence will be packaged in paper containers such as packets, envelopes, and bags. Liquid items should be collected and transported in non-breakable, leak proof containers. Arson evidence is the only evidence that should be packaged while it is still wet. It is important to preserve the vapors associated with accelerants. Arson evidence should be packaged in airtight, clean metal

cans. If biological materials are present in the arson evidence, a Santa Barbara DOJ Crime Lab Criminalists should be notified so they can expedite their processing or advice on the storage of those items.

Moist or wet evidence (blood, plants, etc.), if needed, can be collected in plastic containers or wrapping at the scene for transportation to the laboratory or to the SBSO evidence drying cabinets if the storage time in plastic is two hours or less, and is done to prevent contamination of other evidence. Once it is in a secure location, wet evidence must be removed and allowed to completely air dry. After drying, the evidence can be repackaged in a new, paper container. The plastic packaging used to transport the wet evidence should also be dried and placed into the new paper container to preserve any trace evidence. Under no circumstances should evidence containing moisture be packaged in plastic or paper containers for more than two hours.

Any evidence that may cross contaminate must be packaged separately. All containers should be closed and secured to prevent the mixture of evidence during transportation. Each container should have: the collector's initials, the date/time it was collected, a complete description of the evidence, where it was found, and case number. If evidence is received from another officer/individual, that person's name/date/and time of when the evidence was given to the Forensics Technician/Detective will be noted for proper chain of custody.

Collection of Latent Prints:

Fingers, palms, and footprints are the best evidence to place an individual at the scene of a crime along with DNA evidence. In most cases, all non-movable items should be processed for latent prints at the crime scene. Photography should be used to document prints that do not readily lift due to a poor surface.

Fingerprints from the suspect as well as elimination fingerprints from the victim(s), suspect(s), or witnesses will also be needed for comparison (the same holds true for palm and footprints).

TYPICAL CRIME SCENE RESPONSE CONCERNS

I. General Crime Scene Response

A. Information to get from dispatch center or requesting individual

1. Type of crime
2. Case number, beat, location of incident, date of incident, location to respond to
3. Unit on scene, name of deputy on scene and contact phone number
4. Location of victims and/or suspects
5. Response of major crimes detectives

B. Arriving at the crime scene

1. Contact deputy / detective in control of scene
2. Obtain victim / suspect information: name, DOB, address, phone
3. Conduct a walk-through of the crime scene
4. Process the crime scene

II. Crime Scene Photography

A. Photographing the scene

1. Overall photographs of scene without evidence placards
2. Mid-range photographs of scene without evidence placards
3. Close-up photographs of evidence without evidence placards
4. Re-photo all overall, mid-range, and close-up shots with evidence placards (if necessary, usually major crimes)
5. Make notes of what is being photographed for later report writing.

B. Fingerprints, shoeprints, tire impressions, blood spatter

1. Orientation photograph
2. Scale in photograph; camera on tripod
3. Oblique lighting techniques for impressions
4. Ruler on same plane, camera lens parallel to item

C. Photographing victim / suspect

1. Overall photograph of subject from all views
2. Photograph subject from all sides with close-up headshot for identification purposes
3. Orientation photograph of any injured areas
4. Close-up photograph of the injury with and without a scale
5. Photograph the condition of both sides of the arms/hands
6. Photograph the underside of victims/suspects when turned by the coroner
7. Photograph the surface the body laid upon once it is removed

D. Photographing a room
1. A view of the room from the doorway to include floor and ceiling
2. A view from each corner of the room to include floor and ceiling (if necessary)
3. Closer views showing the condition of drawers, cupboards, debris in the room

E. Photographing the interior of a location
1. All rooms, halls, stairways, closets and storage areas
2. All furnishings including arrangement and location
3. All items of evidence within the room
4. Anything that seems out of place
5. Close-up views of any area showing forced entry, with and without scale

F. Photographing the exterior of a location
1. Straight on 90-degree shot of all four sides
2. 45-degree off-the-corner shots showing two adjoining sides
3. Closer views of all doors and windows
4. Close-up views of any areas showing forced entry, with and without scale
5. Views showing landscaping and yards
6. Views showing the street and neighborhood in both directions
7. Views showing adjacent properties and buildings

G. Photographing witnesses
1. Views of where witnesses were located
2. Views of the scene from witness position(s)

H. Photographing automobiles
1. View showing the entire rear end of the vehicle and a closer view showing the license plate and registration tags
2. Overall views of all sides of the vehicle
3. Close-up view of the VIN
4. View of each tire showing tread design and wear, include orientation of some type
5. Orientation and close-up views of any damage to the vehicle with and without scale
6. General interior photographs from both sides of the vehicle
7. Photograph of ignition and odometer (if possible)
8. Photographs of any evidence located in the vehicle
9. Photograph the interior of the trunk, and engine bay (if possible)

I. Crime Scene Sketches / Diagrams
1. Photographs alone are not always sufficient for documenting a crime scene
2. An understanding of different views – floor plan, elevation, exploded

3. An understanding of taking measurements
4. Diagram all homicides, officer involved shootings, and other scenes when deemed appropriate by the Forensics Unit or at the direction of detectives

III. Evidence collection and packaging

A. Latent prints found at the crime scene

1. Photograph latents developed on a poor surface
2. Photograph patent and visual prints prior to any processing
3. Lift all prints possible with fingerprint tape
   a. *complete information on fingerprint card at scene (date, time, location of lift)*
   b. *draw diagram and orientation arrow at time of lift*
4. Obtain victim/suspect elimination prints (if possible) for future comparisons

B. Clothing found at the crime scene

1. Photograph within “crime scene photography” guidelines
2. Select appropriate size paper bag for the item
3. Roll large items (blankets, sheets) into themselves to preserve trace evidence; paper can be layered in the item to preserve patterns
4. Keep items separate unless already cross-contaminated
5. If items received from a deputy in one bag, leave items in that bag unless items are packaged in plastic. Note the date/time/person giving the evidence (for chain of custody purposes)
6. Be cautious of biohazard materials
7. Transport to Forensics Lab for drying

C. Weapons found at the crime scene

1. Photograph the weapon in position at the crime scene (4 sides)
2. Do not insert anything into the barrel of a gun to pick it up or handle it
3. Always treat all firearms as if they are loaded
4. Unload all firearms at the scene
   a. *Note the condition of the firearm (cocked, de-cocked, jammed, etc.)*
   b. *Revolver*
      1) Make notation of cylinder under the hammer on a revolver
      2) Keep cartridge removed from under the hammer separate
      3) Make notation of what cartridge was in which cylinder of a revolver
      4) Obtain a round count / expended casings count
   c. *Semi-Auto*
      1) Remove magazine, then eject round in chamber
      2) Keep cartridge removed from the chamber separate
      3) Use same guidelines with rifles and shotguns
      4) Obtain a round count

5. Transporting loaded firearms
   a. *Only if a weapon is unable to be unloaded due to jamming, rust, or damage*
   b. *Place in weapons box with muzzle pointed in a safe direction away from people, use caution*
   c. *Clearly mark box "LOADED GUN"*
   d. *Consult firearms examiner for safe unloading*
6. Use gun or rifle box to store and transport firearms
7. Use knife box to store and transport knives or other sharp items
8. Use appropriate size paper bag for other items used as weapons (bats, pipes)

D. Gun Shot Residue
1. Follow instructions provided with GSR kit
2. After consulting with the coroner investigator, perform GSR kit on homicide victims/suspects at the scene (if possible)
3. If unable to do GSR kit, bag hands with paper bags so it can be done at autopsy
4. Perform GSR on live persons as soon as possible
5. Use tape lifts to collect possible gunshot residue from seats, furniture, etc.

E. Collection of trace evidence found at the crime scene
1. Suspected Blood
   a. *Photograph with orientation shot, close up with and without scale*
   b. *Collect control swab from location next to spatter*
   c. *Collect suspected blood with a cotton tipped swab, use distilled water if necessary*
   d. *If suspected blood is on a small collectable item, collect the item*
   e. *Suspected blood samples may also be collected by pulling carpet fibers, or cutting out the area*
   f. *Label outside of package with pertinent information*
   g. *Make notation of location of sample, diagram if necessary*
   h. *Items should be frozen once completely dry*
2. Semen
   a. *Photograph and collect item that the stain is on if possible (clothing, bedding)*
   b. *Collect control swab from location near stain*
   c. *Collect control swab of stain if it is on a hard surface, use distilled water if necessary*
   d. *Collect carpet fibers or cut out area if on a couch, chair, etc.*
   e. *Items should be frozen once completely dry*
3. Hairs and fibers
   a. *Photograph and collect loose, visible hairs and fibers*
   b. *Package hairs in small coin envelopes and then place item in an evidence envelope*
   c. *Label where hairs were found, draw diagram if necessary*
   d. *For large areas, use a tape lift and secure appropriately*

e. Carpet fibers – Collect control swab if area contaminated with suspected blood, semen, then photograph and collect contaminated area, package same as hair samples

f. Freeze all dried fiber samples contaminated with suspected blood or semen

4. Paint samples
   a. Photograph the area where samples are to be collected
   b. Collect control swabs from an area close to the affected area
   c. Collect samples of affected area and package in small box or coin envelope

F. Other types of evidence found at the crime scene
1. Package bullets, bullet fragments, cartridge cases in a small, paper boxes or small coin envelopes
2. Photograph tool marks, shoeprints, tire tracks with and without scale
3. Package glass samples or soil samples in small, unlined box or container
4. Package arson related evidence in an airtight container (paint can) while still wet to preserve vapor evidence

G. Air-dry all clothing, soil, hair, etc. that is biologically contaminated prior to booking

IV.Responding to the hospital

A. Verify response to the hospital before responding to the crime scene, with Forensics Supervisor/Detective in charge

B. Photograph victim / suspect
1. Overall photographs of subject
2. Orientation photographs of injuries
3. Close-up photographs of injuries with and without scale (if possible)

C. Photograph x-rays if possible

D. Collect clothing of victim / suspect in separate bags, unless already cross contaminated (noting chain of custody)

E. Collect whole blood if necessary

F. Be aware of any possible contamination from hospital to scene or vice versa

V. Autopsy

A. Overall photographs of the victim/suspect
1. In body bag with photo of seal, and once removed from body bag
2. With evidence of medical treatment, without evidence of medical treatment

B. Photograph external injuries: orientation and close-up (with and without scale)

C. Collect bags from the hands (if present)

D. Complete a GSR Kit on subject

E. Collect clothing in separate bags as it is removed from the body

F. Consult with detective on the collection of hairs, fingernail scrapings, sexual assault kit, blood, etc.

G. Photograph internal injuries as pointed out by pathologist

H. Collect evidence recovered from inside the body and photograph

I. Fingerprint victim if necessary

VI. Processing a suspect

A. Consider cross-contamination and ways to prevent it when responding from the crime scene to the suspect's location

B. Overall photographs of suspect from four sides

C. Close-up head shot for identification

D. Photograph any injuries with and without scale

E. Photograph scars, marks, tattoos

F. Collect clothing in separate bags unless already cross-contaminated

G. Collect GSR kit

H. Sexual assault kit for persons other than victim

I. Consult with lead investigator on the collection of suspect buccal swabs for future reference

VII. Booking evidence into Property

A. Complete Property Form (refer to Lexipol))

B. Air-dry all evidence that is wet or damp (except clothing related to arson and notify Santa Barbara DOJ Crime Lab)

C. Air dry all items of serological value: suspected blood, semen, saliva, DNA items

D. Refrigerate whole liquid blood

E. Complete required information on evidence envelopes / bags, include necessary "Keep Frozen" or "Refrigerate" labels

F. Securely seal all items with red evidence tape or packing tape and date/initial the evidence seal

G. Book all items in a timely manner

H. Use outside lockers after hours (when applicable)

CRIME SCENE INVESTIGATION UNIT PROCEDURES

I. Reports

A. Property Evidence/Narrative reports

1. Used to book evidence collected from crime scenes or to submit Bureau of Criminalistics (BOC) Requests
2. Make entries into the SBSO Automated Reporting System (ARS)
3. Upload completed narrative portion of report into the Automated Reporting System (ARS), and owner approve

B. Bureau of Criminalistics Requests (BOC)

1. Santa Barbara County Sheriff's Office
   a. Submitted by detectives/patrol deputies to have evidence processed, have evidence photo-documented, or to conduct latent search examination(s)/ comparisons
   b. Make entries into the SBSO Automated Reporting System (ARS) ensuring that any sensitive/confidential reports (i.e. Officer involved shootings, domestic battery, child abuse, etc.) are marked appropriately in the confidentiality section of the Automated Reporting System (ARS)
   c. Upload the completed BOC face page (jpeg image attachment), any additional attachments (jpeg image attachments), and narrative portion of completed BOC report into Automated Reporting System (ARS). The above must be owner approved.
2. Other Agency
   a. Submitted by outside agencies to have evidence processed or latent search examinations/comparisons made
   b. Upload the completed BOC face page (jpeg image attachment), any additional attachments (jpeg image attachments), and narrative portion of completed BOC report into Automated Reporting System (ARS). The above must be owner approved.
3. Bureau of Criminalistics Requests (BOC) are assigned on a rotational basis between al Forensic Technicians/Detectives
4. It is the Forensic Technician's/Detective's responsibility to complete the BOC Request in a timely manner and in accordance to Recurring Performance Measures (RPM's)

II. Property Room

A. Booking crime scene evidence

1. Include SBSO case number, date, and officer name information on bags, envelopes, and latent cards before leaving the scene
2. Air dry items before sealing them (except arson evidence) – dry victim and suspect clothing separately to avoid cross contamination
3. Remove money and jewelry items from clothing and package separately

4. Label bags and envelopes with appropriate “Keep Frozen” or “Refrigerate” stickers
5. Complete property form and enter property information into “Property” section of Automated Reporting System (ARS)
6. Contact property room personnel for submission of evidence
7. Use provided evidence lockers to book evidence after hours

B. Booking evidence generated from Bureau of Criminalistics Requests (BOC)
1. Photograph all evidence with/without a scale
2. Upload above photographs into Forensics Unit digital imaging system under case number
3. Collect additional evidence from item(s) being processed
4. Complete SBSO Property Form and enter property information into “Property” section of Automated reporting System (ARS)

C. Checking out evidence / checking in evidence, for Bureau of Criminalistics Requests (BOC)
1. Contact Property by e-mail or phone to request evidence and a time to pick it up
2. Wait for Property room personnel to inform you the evidence is ready, unless it is a rush
3. Sign the SBSO Evidence/Property Check-Out Receipt for Property Room staff
4. Notify Property by phone or e-mail to tell them you have a return
5. Obtain a copy of the completed SBSO Evidence/Property Check-Out Receipt from Property Room staff

D. Bureau of Criminalistics Requests (BOC)
1. BOC requests are assigned on a rotational basis between all Forensic Technicians/Detectives
2. It is the Forensic Technician/Detective’s responsibility to complete the BOC requests in a timely manner and in accordance to Recurring Performance Measures (RPM)
3. Upload the completed BOC face page, attachments, and narrative portion of the BOC into the Automated Reporting System (ARS) and owner approve.

SECTION 1. CRIME SCENE RESPONSE, DOCUMENTATION, AND EVIDENCE COLLECTION

A. RADIO PROCEDURES

1. List of stations in the County of Santa Barbara

State & Federal Agencies

Station	Agency
3	CHP Buellton
9	CHP Paso Robles
14	CHP Santa Maria
28	CHP San Luis Obispo
29	CHP Santa Barbara
69	CHP Bakersfield
12	FBI Santa Maria
15	FBI Santa Barbara

Sheriff's Department

Station	Agency
C-20	SLO SO Dispatch
21	SLO SO Coast Station
22	SLO SO North Station
23	SLO SO South Station
24	SLO SO Headquarters
25	SLO SO Civil
26	SLO SO Field Command Post
27	SLO SO Main Jail
C-30	SBSO Dispatch
31	SBSO Headquarters
32	SBSO Santa Maria Station
34	SBSO Lompoc Station
35	SBSO Santa Barbara Station
36	SBSO Santa Ynez Station
37	SBSO Cuyama Station
38	SBSO Jail Transportation
39	SBSO Carpinteria Station
11	SBSO Buellton Station
72	SBSO Civil Santa Maria
74	SBSO Civil Lompoc
75	SBSO Civil Santa Barbara

Police Department

Station	Agency
41	Paso Robles PD
42	San Luis Obispo PD
43	Morro Bay PD
44	Pismo Beach PD
45	Grover City PD
46	Arroyo Grande PD
47	Cal Poly PD
48	Atascadero PD
51	Guadalupe PD
52	Santa Maria PD
53	UCSB PD
54	Lompoc PD
55	Santa Barbara PD
61	District Attorney San Luis Obispo
63	Probation
71	District Attorney Santa Barbara
78	Juvenile Probation

II. Phonetic alphabet

A. Adam	N. Nora
B. Boy	O. Ocean
C. Charles	P. Paul
D. David	Q. Queen
E. Edward	R. Robert
F. Frank	S. Sam
G. George	T. Tom
H. Henry	U. Union
I. Ida	V. Victor
J. John	W. William
K. King	X. X-ray
L. Lincoln	Y. Young
M. Mary	Z. Zebra

III. Most common Codes

CODE MESSAGE

997..... Officer needs help, urgently; area units only respond Code 3.
998..... Office needs help, urgently, shooting involved. All cars respond Code 3.
999..... Officer needs help, urgently. All cars respond Code 3
10-1 ..... Reception poor
10-2..... Reception good
10-3 ..... Stop transmitting
10-4 ..... Message received
10-5 ..... Relay message
10-6 ..... Busy
10-7 ..... Out of service at (location)
10-8 ..... In service
10-9 ..... Repeat transmission
10-10 ..... Off duty
10-11 ..... Identify frequency
10-12 ..... Remain in service
10-13 ..... Advise weather conditions
10-14 ..... Escort or convoy
10-15 ..... Prisoner in custody
10-16 ..... Pick up prisoner
10-17 ..... Pick up reports at (location)
10-18 ..... Complete assignment quickly
10-19 ..... Return to station
10-20 ..... Give location
10-21 ..... Telephone (location)
10-22 ..... Cancel or disregard
10-23 ..... Stand by
10-24 ..... Are you in service?
10-27 ..... Request driver's license information
10-28 ..... Request vehicle registration information
10-29 ..... Check for wanted
10-30 ..... Does not conform to regulations
10-33 ..... Request emergency clearance
10-34 ..... Assistance required at station
10-35 ..... Assist officer on car stop at (location)
10-36 ..... Confidential information
10-37 ..... Record time and mileage
10-40 ..... Backup unit requested
10-45 ..... Pick up (subject) at (location)
10-46 ..... Pick up prisoners' meals
10-86 ..... Are there any messages for this unit?
10-97 ..... I have arrived at scene
10-98 ..... Call completed available for another assignment
11-4 ..... Potential emergency. Request for officer
11-5 ..... Public assistance/relations request

CODE	MESSAGE
11-6	Discharging firearms
11-7	Prowler there now
11-8	Person down
11-10	Take a report
11-12	Loose stock
11-13	Injured animal
11-14	Animal bite
11-17	Wires down
11-24	Abandoned vehicle
11-25	Traffic hazard
11-26	Request wants or warrants - driver detained
11-27	Request driver's license information – driver detained
11-28	Request vehicle registration information - driver detained
11-29	Subject has no record or current want
11-30	Missing person
11-40	Advise if ambulance is needed
11-41	Ambulance is required
11-42	Ambulance is not required
11-43	Ambulance follow-up
11-44	Coroner required
11-45	Attempt suicide
11-46	Death (non-traffic)
11-47	Injury (non-traffic)
11-48	Transportation request
11-50	Field interview at (location)
11-51	Security or vacation check at (location)
11-66	Defective traffic device at (location)
11-79	Traffic accident - ambulance has been dispatched
11-80	Traffic accident - major injuries
11-81	Traffic accident - minor injuries
11-82	Traffic accident - no injury
11-83	Traffic accident - no details given
11-84	Direct traffic
11-85	Tow truck
11-86	Special assignment
11-98	Meet the officer
11-99	Officer needs help, urgently. All cars respond Code 3

If unable to recall code, use plain English

REVIEW

Orientation

1. The Forensics Unit serves a _____ function to departmental units and other law enforcement agencies.

2. Within the Forensics unit, many areas of functional responsibility may apply. Circle the letters of the following tasks, which a fully trained Forensic Technician/Detective is responsible to perform.
   a. Crime Scene Photography
   b. Blood Alcohol Testing
   c. Chemical Processing
   d. CAL-ID input
   e. Shoe and Tire Impression Casting
   f. Physical Evidence Collection
   g. Latent Print Investigations
   h. Polygraph Examinations
   i. Crime Scene Videotaping
   j. Voice Print Identification
   k. Latent and Inked Print Comparisons
   l. Presentation of Expert Testimony
   m. Collection of Serological Evidence

3. An individual should strive to gain which of the following:
   a. Expert status
   b. Professionalism
   c. Scientific knowledge
   d. All of the above

4. Technical understanding and ability are more important than ethical standards.
   a. True
   b. False

5. The outcome or conclusion of a latent print comparison is a (n) (choose one or fill in e):
   a. fact
   b. guess
   c. opinion
   d. probability
   e. _____

6. Any error when conducting fingerprint comparisons or other work is serious. However, an erroneous identification is _____acceptable.
   a. sometimes
   b. occasionally
   c. never

7. Falsifying evidence or reports is a felony. (True or False)

8. Which of the following are the Forensics Unit's stated objectives:
   a. To assist the department in achieving departmental goals.
   b. To maintain the highest level of forensic science service to the county's criminal justice system.
   c. To process physical evidence in a timely and cost effective manner.
   d. To maintain a workplace that is both safe and motivating.
   e. To introduce new technology to help improve the quality of justice in Santa Barbara County.
   f. All of the above.

I. CRIME SCENE DIAGRAMING

PRACTICAL EXERCISES

A. Coordinate method

1. Measurements _____
2. Diagram _____

B. Triangulation method

3. Measurements _____
4. Diagram _____

C. Use of GPS. _____

Trainer's initials: _____/Date: _____ Trainee's initials: _____/Date: ____

II. PHOTOGRAPHY

PRACTICAL EXERCISES

A. General Principles

1. Exterior _____
2. Interior _____
3. Vehicle _____

B.Victim / Suspect _____

C.Nighttime exercises _____

1. Painting with light – with electronic flash and with flashlight
2. Timed exposures

D. Shoe and tire impression exercises _____

1. Use of oblique lighting
2. Photograph from four sides
3. Use of Large Format camera

E.Use of flash "fill" during daylight photos _____

F.Macro photography _____

1. Photographing latent prints
2. Photographing injuries

G. Video camera _____

Trainer's initials: _____/Date: _____ Trainee's initials: _____/Date: _____

REVIEW

Crime Scene Diagramming

1. Photographs alone are not always sufficient for documenting a crime scene. T or F

2. A crime scene sketch should be considered an architectural drawing. T of F

3. A sketch is often needed to provide a permanent record of items and their physical arrangement or relationships. T or F

4. Name three suitable outdoor objects/points which could be used as reference points in a sketch:

a.

b.

c.

5. Name three types of sketches:

a.

b.

c.

REVIEW

Forensic Identification Photography

1. Without any light, there can be no photography. T or F
2. f/4 will transmit half as much light as f/8. T or F
3. The focal length of a lens controls magnification. T or F
4. The shutter speed determines the depth of field. T or F
5. Depth of field is the distance from the nearest point of sharp focus to the farthest point of sharp focus. T or F
6. The depth of field will normally range 1/3 in front of the point of focus and 2/3's beyond. T or F
7. The basic exposure can be modified by changing either or both the _____and/or _____.
8. One way to adjust the depth of field is by changing the.
9. Photography can preserve and _____ significant evidence.
10. Photographs serve as supplements to an investigator's notes and sketches and provide a pictorial record of crime scenes and evidence. T or F
11. Angstrom and nanometer are interchangeable terms; they have the same meaning. T or F
12. Visible light is but a small part of the complete radiation spectrum. T or F
13. A strong light source reveals fingerprints, which may not be visible under ordinary room lighting or daylight. T or F

III. COLLECTION AND PRESERVATION OF EVIDENCE

PRACTICAL EXERCISES

a. Gunshot residue _____
b. Hair and fiber/trace evidence _____
c. Blood or any biological fluids _____
d. Weapons (includes recovery from water) _____
e. Bullets _____
f. Footwear impressions _____
g. Latent print evidence _____
h. Paint/paint transfer _____
i. Glass _____
j. Tool mark evidence _____
k. Arson related evidence _____
l. Soil samples _____
m. Paper evidence _____

Trainer's initials: _____/Date: _____

Trainee's initials: _____/Date: _____

REVIEW

Criminalistics

1. A gun with a dried bloodstain should be packaged in a paper bag. T or F

2. A wet blood soaked jacket should be packaged in a plastic bag. T or F

3. A phenolthalein test is specific for human blood. T or F

4. Luminol will only react with blood. T or F

5. Possible hairs or fibers should be packaged in paper bindles. T or F

6. An item which is soaked with a possible accelerant should be packaged in a:
   a. glass jar
   b. paper bag
   c. plastic bag
   d. metal container

7. What is the correct laboratory routing sequence for a gun, which needs to be examined for the presence of fingerprints and blood, and needs to be test fired? (Name the sequence of which laboratory sections the gun will route to).

   _____/ _____ / _____

8. Explain why a control is needed for any bloodstains, which are collected.

   _____

   _____

9. Luminol will react best with what type of stain?
   a. a fresh bloodstain
   b. an old bloodstain
   c. a fresh semen stain
   d. an old semen stain

REVIEW

Firearms Safety and Evidence

1. By comparing the striations on evidence bullets with test-fired bullets, it is possible to positively establish that a bullet was fired from a particular weapon. T or F

2. A cartridge casing cannot be conclusively matched to a particular weapon. T or F

3. GSR stands for

4. You should always treat a weapon as if it were loaded. T or F

5. Weapons being collected as evidence should be transported to the laboratory and unloaded only by qualified firearm examiners. T or F

6. When handling firearms in the laboratory, the person handling the weapon is always responsible for insuring the weapon is unloaded. T or F

7. A non-metallic instrument (i.e. pencil) can be inserted in the barrel of a handgun to assist in picking up the weapon.
   T or F

8. The cyanoacrylate processing of a weapon can interfere with the trigger pull testing. T or F

REVIEW

Criminal Law & Rules of Evidence

1. Define the following:
   a. Felony: _____

   :_____

   b. Misdemeanor: _____

   _____

2. Probative value is the concept that evidence must be relevant and has a tendency to prove or disprove any disputed fact that is before the court. T or F

3. Duly qualified experts may give their opinions on questions in controversy at trial. T or F

4. The jury is bound to accept the opinion of any expert as conclusive. T or F

5. The pre-trial discovery of pertinent facts is meant to prevent in-trial surprises. T or F

6. Photographs that may be overly prejudicial should not be taken, as they will be inadmissible. T or F

7. All photographs (to be admissible) must be a fair and accurate representation of the scene. T or F

8. Only the photographer can authenticate a photograph. T or F

REVIEW

Court Procedures and Testimony

1. A pretrial conference with the prosecutor is important only if the prosecutor does not have prior experience with presenting a fingerprint expert. T or F

2. You should never discuss any aspect of the evidence with the defense attorney prior to testifying.
   T or F

3. Your dress and demeanor are significant to a jury's perception of you as an expert witness. T or F

4. Define voir dire: _____

5. Chain of custody refers to the defendant's detention and is not relevant to the Forensic Technician/Detective's testimony.
   T or F

6. When testifying, you should never reveal or acknowledge any pretrial conferences with the investigator or attorney.
   T or F

7. You should never acknowledge any book as being authoritative, as none of the available references are comprehensive. T or F

8. If you testified at the preliminary hearing, you will not have to testify at the trial. T or F

9. Under California Law, proposition 115, the investigator is allowed to offer the expert's findings at the preliminary hearing, if the investigator meets certain requirements. T or F

10. A defense expert or counsel should not be provided any information that is not also supplied, to the prosecutor.
    T or F

11. In Superior Court, would you receive a Daubert Challenge or Kelly Frye?
    _____

MODULE 1. COMPETENCY STANDARDS

COMPLETION OF BASIC CRIME SCENE COURSE (S) (OUTSIDE COURSES)

Course name_____ Date completed_____

Course name_____ Date completed_____

I. CRIME SCENE RESPONSE AND RADIO PROCEDURES / BEAT AREAS

A. Understands that requests for a Forensic Technician/Detective must be made through:
1. Sheriff's Communication Dispatch
2. Criminal Investigations Bureau Commander/Lt./Sergeant
3. Major Crimes Supervisor

B. Records information pertaining to call
1. Case number
2. Date/time of request
3. Beat of requesting deputy
4. Victim(s)/suspect(s)
5. Location of response
6. Location and date of incident
7. If a Detective will be responding
8. Any other pertinent information needed

C. Understands that response to a call for service must be made in a timely manner.

D. Understands the relevance of checking in with the deputy in charge of the scene/deputy in charge of the incident log and in conducting an initial walk-through of the crime scene prior to processing

E. Realizes in some circumstances, response to the hospital will be critical prior to response to the scene

F.Has an understanding of the phonetic alphabet, and most commonly used radio codes used by the department and the unit

G.Is aware of the various stations and the station numbers that correspond

H.Is aware of the frequencies most used by the unit

I.Has an understanding of the beat areas covered in the county

ORAL/WRITTEN EXAM COMPLETED: _____

PRACTICAL COMPETENCY COMPLETED: _____

FORENSIC SUPERVISOR REVIEW_____

MEMO OF COMPLETION ISSUED: _____

II. DOCUMENTATION OF THE CRIME SCENE AND PHOTOGRAPHY

A. Realizes the various methods of documenting the scene such as:
1. Video-documentation
2. Photo-documentation
3. Crime Scene Sketching/Diagramming
   a. *an understanding of how to take adequate measurements and notes*
   b. *an understanding of the different views or types of sketches*
   c. *necessary information to be present on a sketch/diagram*
   d. *understanding of the legal requirements for documentation*
4. Recording all pertinent information regarding the crime/scene
5. GPS (Aerial reading)
6. Use of the SBSO Traffic Unit to assist with crime scene measurements/diagram (extensive scenes)

B.The trainee uses camera equipment issued to the unit which includes:
1. Primary digital camera with accessories
2. Secondary digital camera with accessories

C.Is familiar with high definition video camera equipment and operation to document crime scenes

D. Knows the various methods used to effectively photograph crime scenes at night
3. available light
4. painting with light

E.Knows the procedure used to photo-document a crime scene and to photo-document trace and latent print evidence

F. Is familiar with the process of photo-documenting suspect(s) and victim(s), which may include photographing bruises, wounds, etc.
Documents all photos taken in the form of a report (unless otherwise specified)

ORAL/WRITTEN EXAM COMPLETED: _____

PRACTICAL COMPETENCY COMPLETED: _____

FORENSIC SUPERVISOR REVIEW_____

MEMO OF COMPLETION ISSUED: _____

III. COLLECTION AND PRESERVATION OF EVIDENCE/AUTOPSY PROCEDURES

A. Understands the process of documenting the location of evidence prior to collection.
1. Video-documentation
2. Photo-documentation
3. Crime Scene Sketching/Diagramming
4. Notes

B. Understands the significance of collecting the most fragile/easily lost evidence

C. Realizes that collection should be conducted in a logical manner

D. Has knowledge of proper packaging techniques and transportation considerations

E. Understands the significance of thoroughly drying wet evidence, packaging, and storing

F. Realizes that some evidence may require special packaging to avoid cross contamination or safety issues

G. Understands that evidence must be packaged, and booked into the Property Room in a timely manner, and the proper labels are attached to the evidence, i.e.: Freeze, Refrigerate, Biological, etc., as well as completing all information on the packaging

H. The trainee understands the process of photographing, documenting, and the collection of evidence from a deceased person at the post-mortem examination.
1. Overall photographs of the subject, including wounds, trace evidence, and any other evidentiary photographs as deemed necessary
2. Understands that recording the subject's fingerprints/palm prints are required
3. Understands that collecting blood samples and other forms of trace evidence from the subject is required
4. Conducts a Gunshot Residue Kit (GSR) on the subject when necessary and collects evidence bags placed on decedent's hands as evidence
5. Collects and packages all evidence obtained in the proper manner

ORAL/WRITTEN EXAM COMPLETED:_____

PRACTICAL COMPETENCY COMPLETED: _____

FORENSIC SUPERVISOR REVIEW_____

MEMO OF COMPLETION ISSUED: _____

VIII. COURT TRAINING

A. Demonstrates understanding of rules and procedures related to court proceeding.

B. Meets the standards required by Laboratory courtroom testimony SOP

ORAL/WRITTEN EXAM COMPLETED: _____

PRACTICAL COMPETENCY (MOCK TRIAL) COMPLETED: _____

FORENSIC SUPERVISOR REVIEW_____

MEMO OF COMPLETION ISSUED: _____

CRIME SCENE INVESTIGATION TRAINING

MODULE 2. LATENT PRINTS - FIELD COLLECTION and PROCESSING TECHNIQUES

The word “latent” means “that which is not clearly visible.” A latent print is a print that is not readily seen and must be enhanced to be of value in a criminal investigation. Enhancing a latent print makes visible that which is already there, it does not change the physical structure of a print or cause a print to “magically” appear if it was never there in the first place. Latent prints can be enhanced through various physical and chemical methods.

There are three types of secretion producing glands in the human skin: apocrine, sebaceous, and eccrine. Apocrine oils are composed of proteins, carbohydrates, and cholesterol associated with scent glands. Sebaceous secretion is composed of fatty acids, waxes, and oils associated with the hair on your body. Eccrine secretion is 99 % water and 1 % solid (amino acids and salts), and is from the sweat glands. A combination of these substances may be present in latent prints left at a crime scene or on physical evidence.

There are several chemical processes available to enhance latent prints. Each process reacts with a different component of the latent residue, so it is important to be familiar with each process and the sequence in which to use them. Each component of latent residue will degrade at a different rate and is also a factor in deciding which process to use.

Since there are a number of factors affecting the quality and duration of a latent print, it is important to always attempt to develop prints regardless of the chances for success. The surface of an object, the pressure applied while touching an object, the length of contact time with an object and the environment are key factors in determining if latent prints will be found

Recommended reading:

Manual of Fingerprint Development Techniques,
Scott’s Fingerprint Mechanics,
Friction Ridge Skin,
Advances In Fingerprint Technology,
Ridgeology by David Ashbaugh.

I. Powder

A. Reasons for powdering

1. To locate and make latents visible
2. To develop contrast for photographic and comparison purposes
3. To develop for lifting and preservation

B. Types of powders

1. Type
   a. *Regular*
   b. *Magnetic*
2. Composition
   a. *Bi-Chromatic*
   b. *Black*
   c. *Fluorescent*
3. Use of each is dependent upon the surface and environment

C. Types of brushes

1. Fiberglass
2. Feather
3. Magnetic
4. Use of each is dependent upon the surface and environment

D. Dusting techniques

1. Photograph visible latents before applying dust
2. Test print any unusual surfaces – bank counters, rough surfaces
3. Make a visual examination of the surface with and without oblique lighting before applying powder
4. Apply powder gently as the brush may destroy fragile latents
5. Excess powder may sometimes be removed by a brush
6. Once ridge flow is visible, follow the ridge flow with the brush
7. A second lift may remove excess dirt or powder to produce a clearer print
8. Powder may obliterate any prints in dust, grease or oil; these must be photographed
9. Brushes contaminated with oil, grease, and blood, or used on meth labs must be discarded (use disposable fingerprint brushes)
10. Wear gloves at all times for safety and to prevent leaving your own prints
11. Think of how you would handle an item and dust accordingly

E. Chemical Processing

1. Understanding sequential processing is imperative – refer to FBI sequential chemical processing guide
2. Be aware of laboratory safety procedures
3. Visually inspect items prior to any processing and photograph visible prints
4. Have an understanding of the various chemical processes used
   a. *Cyanoacrylate ester fuming*
   b. *Iodine fuming*
   c. *Ninhydrin*
   d. *Silver Nitrate*
   e. *DFO*
   f. *Gentian violet*
   g. *Laser techniques*
   h. *Dye staining – RAM, Rhodamine 6G*
   i. *Small Particle Reagent*
   j. *Sudan Black*
   k. *Amido Black*
   l. *Sticky Side Powder*

F. Use of the alternate light source (ALS)

1. Refer to the instruction manual prior to use
2. Do not look directly into the light and be careful of reflected light (use appropriate ALS goggles)
3. Turn power switch on, then turn lamp switch on
4. Use both fixed and tunable wavelengths to examine evidence prior to processing
5. Use in conjunction with fluorescent powders and dye stains
6. Photograph any latents made visible by the ALS
7. Use camera in “A” mode to determine the exposure time needed
8. Use the same color filter on the camera as used in the ALS goggles to view the latent with the light source
9. Mark on the item where the latent is for future reference - use lettering system
10. Have photos printed for comparisons (1:1 or 5:1 if necessary)
11. ALS shutdown – turn off lamp switch, wait for unit to cool, turn off power switch

G. Ninhydrin Print

1. Obtain photograph(s)/scanned images of the front/back sides of the item prior to Ninhydrin
2. All usable ninhydrin prints must be marked on the actual item and photographed/scanned
3. Remember that Ninhydrin prints will fade over time
4. Comparisons of Ninhydrin prints may be made off of the actual item or photographs/scanned images
5. Wear gloves /mask when handling ninhydrin treated evidence
6. Always work under the laboratory fume hood when using Ninhydrin

PRACTICAL EXERCISES

DUSTING AND CHEMICAL PROCESSING

A. Demonstration of laboratory safety procedures with regard to chemical processing

B. Demonstration of formulation and use of the following reagents:

1. Black, Silver, Bi-Chromatic, Fluorescent, and Magnetic powders _____
2. Cyanoacrylate fuming _____
3. Iodine fuming _____
4. Ninhydrin _____
5. Silver Nitrate _____
6. DFO _____
7. Gentian Violet _____
8. Alternate Light Source Techniques _____
9. Dye staining (RAM, Rhodamine 6G) _____
10. Small Particle Reagent (SPR) _____
11. Sudan Black _____
12. Amido Black _____
13. Sticky Side Powder _____

C. Use of the Alternate Light Source in the detection of latent prints and photography of prints detected with the ALS: _____

D. Demonstration of sequential processing for 1) smooth, non-porous, 2) rough, non-porous, 3) paper and cardboard, 4) adhesive coated surfaces, 5) plastics, and 6) untreated metal surfaces.

Trainer's initials_____ Date_____ Trainee's Initials_____ Date_____

REVIEW

Powder Development of Latent Prints

1. Name and define the three basic types of evidence prints.

   a. _____ Definition.

   b. _____ Definition _____.

   c. _____ Definition _____.

2. Powders are by far the most commonly used method to develop latent prints. T or F

3. Name the three basic powders in field use by our department.

   Bi-Chromatic / Magnetic / Fluorescent

4. The length of time a latent print will last (prior to development) is affected by which of the following:

   a. composition of residue deposited
   b. substrate
   c. environment after deposit
   d. b & c
   e. all of the above

5. The fragile nature of latent prints must be a consideration when packaging unprocessed evidence for shipping. T or F

6. Failure to recover latent fingerprints from an item means that the prints have been intentionally wiped off. T or F

7. Latent fingerprints on either porous or nonporous surfaces last indefinitely and can always be recovered with the appropriate processing technique. T or F

8. Powder selections should be based on comparison preferences, not on powder to surface suitability. T or F

9. Name three types of lifting devices and describe benefits and/or disadvantages to each.

   a. _____/ _____

   b. _____/ _____

   c. _____/ _____

10. Pertinent case number, names of Forensic Technician(s)/Detective, and evidence information (origin of latent print), must be noted on the lift card in a timely manner. T or F

11. All latent lifts become evidence when they are deemed to have evidentiary value, and are then retained. T or F

12. When evaluating latent prints for lifting or prints that have been lifted, which of the following shall be retained:

    a. All fragmentary prints

    b. All identifiable prints

    c. Only those latents which you could identify

    d. Any prints which could have exculpatory value

    e. All of the above

    f. A, B & D

13. While some prints can be used to _____an individual, those same prints may not be sufficient to _____the individual. (place either eliminate or identify in the appropriate place)

14. Elimination prints of victims and witnesses may sometimes be used to collaborate or disprove their statements regarding an incident. T or F

15. At times, it may be unwise to attempt powder development of latent prints that are visible. T or F

16. It should be routine procedure to make a visual examination for latent fingerprints before any kind of development is attempted. T or F

17. Test printing is, in some cases, a better procedure than blind development. T or F

18. It is never a good procedure for fingerprint technicians to intentionally place their own prints on evidence or surfaces at a crime scene or in the lab. T or F

19. A common mistake by beginners is the insufficient use or overuse of powders. T or F

20. In all cases, it is possible to remove excess fingerprint powder with a brush. T or F

21. Brushes or powder contaminated with oils or grease must be discarded. T or F

22. Once the contour or pattern flow of the ridges is visible, the brush strokes should conform to the _____ .

23. Brushes or powder used to process drug labs should be discarded, as a hazardous material, immediately after completion of processing. T or F

24. If the latent impressions appear in a film of dust, oil, or grease, powder may _____the latent.

25. When multiple lifts are retained, they shall be marked accordingly as 1st lift, 2nd lift, etc. T or F

25. Fingerprint evidence is delicate; a powdered print may be obliterated by one brush stroke. T or F

27. Oblique lighting is rarely useful in detecting latent prints. T or F

28. The use of gloves when handling evidence will adequately preserve any latent prints. T or F

29. Prints consisting of fingers that are in sequence (i.e. index-middle-ring) should be lifted with one continuous piece of lifting tape. T or F

30. Name the major components in the natural perspiration from the pores.
_____, _____ & _____

31. Surgical style gloves will preclude your leaving prints on a surface. T or F

MODULE 2. LATENT PRINTS - FIELD COLLECTION and PROCESSING TECHNIQUES COMPETENCY STANDARDS

A. Has knowledge of the fingerprint powders and the different field processing techniques available
   1. Black, Silver, Bi-Chromatic, Fluorescent, and Magnetic powders as well as Small Particle Reagent
B. Has knowledge of fingerprint equipment and lifting techniques and has demonstrated the processes
C. Realizes that fingerprints that may not readily lift should be photographed first
D. Understands that elimination prints may be needed from the victim(s) as well as the suspect(s)
E. Has an understanding of collection techniques used on various types of surfaces
F. Understands how oblique lighting aids in the detection of latent prints
G. Knows types of evidence prints
   1. Latent
   2. Patent
   3. Plastic
   4. Recorded
H. Understands the process of logging all latent prints brought into the unit and the procedure for filing the prints

ORAL/WRITTEN EXAM COMPLETED_____

PRACTICAL COMPETENCY COMPLETED_____

FORENSIC SUPERVISOR REVIEW_____

MEMO OF TRAINING ISSUED_____

CERTIFICATE OF TRAINING

COMPLETION OF BOTH MODULES OF THE CRIME SCENE INVESTIGATION TRAINING PROGRAM CONSTITUTES COMPETENCY FOR CRIME SCENE INVESTIGATIONS. COMPLETION OF THIS TRAINING PROGRAM IS TO BE DOCUMENTED BY A CERTIFICATE OF TRAINING OR MEMORANDUM OF TRAINING FOR INCLUSION IN THE EMPLOYEE'S TRAINING RECORDS.

CERTIFICATE OF TRAINING OR MEMORANDUM OF TRAINING ISSUED_____

FINGERPRINT ANALYSIS, COMPARISION, EVALUATION AND VERIFICATION
TRAINING MANUAL

Outside training courses are important components in the training of fingerprint examiners in the County of Santa Barbara Sheriff's Office Forensics Unit. The following courses or their equivalents are outside courses:

CCI/DOJ Advanced Ridgeology (40 hours)

CCI/DOJ AFIS Pattern Recognition (24 hours)

Several other courses are considered highly desirable as a trainee develops in the practice of this discipline. These courses are:

Advanced Palm print comparison (24 hours)

CCI/DOJ Latent print Techniques (40 hours)

CCI/DOJ Latent Print Comparison (40 hours)

REQUIRED READING:

Quantitative-Qualitative Friction Ridge Analysis – David Ashbaugh

Although there are many means available today for identifying people, fingerprints continue to be the most reliable and widely used method. There is historical documentation available that dates the use of friction ridges as a means of personal identification from about 300 BC. Pioneers in the field include Sir William Herschel, Henry Faulds, Sir Francis Galton, Juan Vucetich, and Sir William Henry.

To be an effective latent fingerprint examiner, it is important to understand the structure and evolution of friction ridge skin. The genetic and physical variances occurring during human development is the reason why no two areas of friction skin will ever be found to be the same, even in a small area. No two prints have ever been found alike; not between the fingers on the same hand or between two individuals. Fingerprints are permanent and barring cases of scarring, accidental or surgical removal of the fingers, they do not change until decomposition of the body after death.

Fingerprint comparisons are made by comparing the unknown latent print with the known print of a subject. This ensures the examiner of an objective examination and diminishes chance of mind set. The three-step process of analysis, comparison and evaluation is then utilized until an opinion can be

formed. That opinion can be: identification, elimination, or inconclusive (insufficient detail to render an opinion).

It is important to remember that there is no scientific basis for using a set amount of ridge characteristics (commonly referred to as “points”) to make a positive identification. An examiner may use traditional Galton detail, ridge flow, pattern type, creases, and scars to form an opinion.

The AFIS computer database is a useful tool in helping to identify latent prints. The computer is able to search the DOJ criminal database in Sacramento and provide possible candidates for further investigation. It is important to remember that the computer cannot make a positive identification of a latent print. A manual comparison must be done between the latent print and the known prints of a candidate before an identification can be made.

> **Note:** the following outline is intended to be used for general fingerprint / latent print background and requires reading in the following books: *Scott’s Fingerprint Mechanics, The Science of Fingerprints, Ridgeology* by David Ashbaugh, *Quantitative-Qualitative Friction Ridge Analysis* by David Ashbaugh, *Advances In Fingerprint Technology,* and other related materials.

I. Physiology

A. Fingerprints are unique and permanent

B. Friction ridge skin is found on the palms and feet and is responsible for fingerprints /palm prints / footprints

C. Fingerprints form in the womb between the third and fourth month

D. Scarring on the dermal layer can cause a permanent change

E. Latent prints are 99% water secreted through the pores on the friction ridge skin

F. Abnormal ridge formations

1. *Dissociated* – fragmented ridges caused by disturbances during the third and fourth month of pregnancy
2. *Dysplasia* – incomplete or defective development of friction skin causing failure in ridge alignment
3. *Cuspal patterns* – ridges are vertical, running up and down, without forming a pattern

II. Friction ridge characteristics

A. A friction ridge is that portion or strip of skin that is raised from the skin surface and of which fingerprints are actually made

B. Bifurcation – the splitting of one continuous ridge into two continuous ridges

C. Ending ridge – the point where a ridge stops

D. Dot – a single ridge unit, one pore

III. Types of evidence prints

A. Latent - invisible prints that need some type of enhancement to be seen

B. Patent - visible prints that are made from ink, paint, grease, blood, oil, dust, etc.

C. Plastic – an impression left behind in a soft substance such as clay, soap or wax

D. Recorded – a deliberate reproduction of a fingerprint, usually inked or live scan

IV. Factors affecting the length of time a latent print will last (prior to development)

A. There is no scientific method of determining the age of a latent print
1. Time period can be narrowed – i.e. when was the last time the window was cleaned?

B. The composition of the residue deposited – greasy, sweaty

C. The substrate or surface that the latent is on – rough vs. smooth

D. The environment - temperature, weather conditions, etc.

E. Location of print or item touched
1. Paper stored in a vault
2. The underside of a desk

V. Fingerprint patterns

A. Loops
1. Right slant loop
2. Left slant loop

B. Whorls
1. Double loop whorl
2. Central pocket whorl
3. Plain whorl

C. Arches
1. Plain arch
2. Tented arch

D. Accidental – two or more pattern types in one finger – classified as a *Whorl*

VI. Comparison procedures

A. Analysis, Comparison, Evaluation
1. Analyze the information available in the unknown print: ridge flow, creases, pattern type, ridge characteristics, scars
2. Compare the unknown print to the known print, looking for the same characteristics in the same spatial relationship on each print
3. Evaluate all information and form an opinion: identification, elimination, inconclusive (insufficient detail available)

B. Use Adobe Photo Shop (for side by side comparisons) or print-out enlargements to aid in the comparison process

C. Be aware that distortion will occur in both latent and rolled prints

D. There is no scientific basis for using a set amount of ridge characteristics to make a positive identification

E. Verifications
1. All positive identifications must be independently verified by another latent examiner

SECTION 1. CAL-ID / FBI AFIS PROCEDURES

The purpose of this training is to qualify the trainee to enter latent prints into AFIS, to be able to assess the quality of latent lift cards from SBSO submissions for suitability for AFIS entry and to enter the appropriate prints. Discussion will center on analyzing fingerprints and determination of suitability for search and comparison. Practical exercises will require note taking in conformance with section standards.

A. Definitions
1. AFIS: Automated Fingerprint Identification System (CAL-ID)
2. IAFIS: Integrated Automated Fingerprint Identification System (FBI)

B. Entering a fingerprint/palm print into the system
1. Log onto Global Work Station: 10-print or Latent
2. Scan or capture print(s)
3. Correct scanned image as needed
4. Input information required
5. Register a fingerprint/ palm print (in case of No Hits)
6. Send image to database
7. Check completed jobs and purge out of system
8. Make sure to save image from Cal-Id to use in FBI system

C. Procedure for a Cal-Id / FBI hit
1. Make a printed copy of the candidate hit list
2. Use the California DOJ Automated Archive System (AAS) and use the CII # to access an individual's exemplar ten-print/palm print cards (if available) for comparison purposes
3. If no ten-print/palm print cards on file with AAS, then contact DOJ for a copy of the exemplar cards
4. Other resource to obtain print cards: Store and Forward (Department's Live Scan System)
5. Manually compare the latent print with the rolled print card of the candidate
6. A positive identification **cannot** be made from a digital image
7. Generate a Forensics BOC report with results and have SBSO Records forward a copy of the report to the investigating deputy/detective

D. 10–prints
1. Primarily used to identify dead bodies
   a. *Return coroner prints to the coroner investigator*
   b. *Once a CII number is obtained, the coroner investigator will take over the investigation*

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CAL-ID / FBI FINGERPRINT & PALMPRINT ENTRY PRACTICAL EXERCISES

A. Demonstration of the CAL-ID/AFIS system, proper procedures and techniques to obtain results.

1. Latent print entry and purging _____
2. Cal-id
   a. Latent Fingerprint (entry, registration, & purging) _____
   b. Latent Palm Print (entry, registration, & purging) _____
3. FBI
   a. Latent Fingerprint (entry, registration, & purging) _____
   b. Latent Palm Print (entry, registration, & purging) _____

1. The trainer will supervise the trainee by watching AFIS entries for approximately a one-month period. The trainee will enter and compare all prints in that month or as necessary (i.e.: slow month) under the supervision of the trainer
2. Trainee will practice note taking by completing a set of redundant notes on all entries (use: notebook / triplicate SBSO Latent Information Report)
3. Each trainee will be assigned print comparison cases in that month to be performed under supervised analysis.
4. The comparison report written by the trainee will be peer reviewed by the trainer (or a competent examiner)

Trainer's Initials_____ Date_____Trainee's Initials_____ Date_____

B. Rolled fingerprints

1. Demonstration of how to roll inked fingerprints; discussion of commercially available methods of recording inked fingerprints and the difference between finger/palm exemplar and a set of major case prints

Trainer's Initials_____ Date_____Trainee's Initials_____ Date_____

REVIEW

History and Background of Fingerprint Identification

1. Name three forms of the early non-scientific methods of personal identification.

   _____/ _____ / _____

2. The outer layer of the skin is known as the _____

3. Injury to the _____may result in a permanent scar.

4. The depressed areas between the ridges are known as furrows. T or F

5. The patterns appearing on the volar areas are influenced by heredity. T or F

6. The proximal end of the finger is closest to the tip. T or F

7. The thumb is on the ulnar side of the palm. T or F

8. More than one fingerprint is necessary to establish the presence of someone at the scene. T or F

9. Associate the following individuals and contributions to the science of fingerprints.
   (Place the letter for the contribution by the individual's name.)

Sir Francis Galton
(1822-1911)

Ivan Vucetich
(1858-1925)

Harold Cummings Ph.D.
& Charles Midlo M.D.
(1920-1940's)

Johannes Purkinje
(1787-1869)

Nehemiah Grew, M.D.
(1641-1712)

Sir Edward Henry
(1901)

Dr. Henry Faulds
(1880)

Marcello Malpighi
(1628-1694)

A. First literature to suggest criminal identification by chance prints left at the scene of a crime.

B. Researched functions of human skin.

C. Described the fingerprint patterns in an 1823 thesis.

D. Professors of anatomy who did extensive research into the nature of friction skin.

E. First person to study and describe ridges, furrows, and pores.

F. Published first book on fingerprints in 1892, discussing permanence, inheritance, and naming the major ridge characteristics.

G. Credited with the first murder case solved with fingerprints in 1893.

H. Created the classification system used in most English speaking countries.

REVIEW

Physiology of Volar Skin

1. Human skin is classified as an organ. T or F
2. Volar skin is located on what areas of the human body? (list all areas)
   _____
3. Permanent scarring occurs when the _____layer is damaged.
4. Closely related people have a greater chance of having similar appearing fingerprints. T or F
5. Pore locations are very fluid and can change dramatically. T or F
6. Incipient ridges are immature ridges, which will eventually mature into normal ridges. T or F
7. The inner layer of skin is covered with double rows of peg-like formations called _____ _____ _____.
8. There has been medical research into the uniqueness and permanence of fingerprints. T or F
9. Papillary ridges form on a fetus during the third and fourth months of fetal life. T or F
10. Occupational damage to ridge formations is usually temporary, and the damage may be corrected in time, if given an opportunity. T or F
11. The papillary system consists of _____, _____, _____, and pores.
12. There is a demonstrable difference between the secretion of the sweat glands on the palms and fingers and the secretions of the hairy portions of the skin. T or F

REVIEW

Automated Fingerprint Identification System

1. The Automated Fingerprint Identification System searches and makes identification. T or F
2. Palm prints are only searched through the CAL-ID system in special cases. T or F
3. The “NEC” AFIS works by first locating the position of the fingerprint minutiae in relation to _____.
4. The print orientation must be within 10 degrees. T or F
5. Explain what the candidate list represents.
   _____.

6. The job information is stored in the job QUEUE while the job is waiting to be processed. T or F

7. Latent registration refers to the orientation of the print. T or F

REVIEW

Recording Inked Prints

1. Name two commercially available methods of recording fingerprints other than with the use of ink.
   a. _____
   b. _____

2. Describe the function or purpose of the two large finger impression boxes on the bottom of a ten print card.
   _____

3. Plain impressions show more ridge structure than rolled impressions; therefore, they are more important. T or F

4. Describe the difference between a finger/palm exemplar and a set of “major case prints”.

   _____

   _____

5. It is a good practice to permit a subject to “take” their own impressions, if they are familiar with the procedure. T or F

MODULE 1. CAL-ID/AFIS COMPETENCY STANDARDS

1. Has read literature and understands the history of fingerprints and is familiar with the pioneers in the field.
2. Understands the structure, physiology, and evolution of friction ridge skin
3. Genetic and physical variances during human development
4. No two areas of friction skin are the same
5. No two fingerprints have ever been found alike and are unique
6. Knows the eight basic pattern types
7. Has an understanding of the CAL-ID/FBI AFIS systems
8. Knows the procedures to submit the latents into the CAL-ID/FBI systems
9. Knows the procedures in the event of a “hit” made on a latent or ten print submission through Cal-Id/FBI
10. Knows the procedures of registering and purging jobs

ORAL/WRITTEN EXAM COMPLETED_____

COMPETENCY COMPLETED_____

In order to demonstrate competency, the trainee must independently complete 5 entries into AFIS under the contemporaneous observation of the trainer.

FORENSIC SUPERVISOR REVIEW_____

MEMO OF COMPLETION ISSUED_____

MODULE 2. ANALYSIS, COMPARISON, EVALUATION, VERIFICATION TRAINING

Training in this section of the training program depends on the successful completion of AFIS training. Upon demonstration of competency in AFIS activities, limited AFIS casework will be assigned to the trainee. The casework allows the trainee to broaden his/her experience with respect to the number of prints and quality of prints analyzed.

Additional practical material for training in comparison is drawn from previous proficiency material retained by the unit. The trainer will assign a set of prints from this proficiency material (usually the entire proficiency package). The training will cover the techniques of analysis, comparison and evaluation, including proper and sufficient note taking. The trainee will document their observations and create case notes in conformance with the section standards. When he/she has evaluated a sufficient number of packets (approximately 100 individual prints), and has demonstrated increasing independence and reliability in his/her comparisons, they will consult with the trainer and the unit supervisor about his/her readiness for a comparison competency test. With their concurrence, he/she will be assigned a competency test from the section's retained proficiency test materials. This packet may not be drawn from any packet that he/she has previously worked in his training. The trainee must successfully complete the competency sample and a written examination provided by their supervisor to be judged competent.

Completion of this training module does not qualify an examiner to act as the technical reviewer for fingerprint identification cases. Additional experience, typically on the order of about 100 cases or six-months' worth of full-time fingerprint examination work, is necessary before an examiner is designated to perform technical review; this designation is solely at the discretion of the unit supervisor regardless of an examiner's years of experience.

PRACTICAL EXERCISES

A. Whorls _____

B. Arches _____

C. Loops _____

D. Mix _____

E. Archived proficiency material (# of packets worked) _____

Trainer's initials_____ Date_____ Trainee's initials_____ Date_____

COURT TRAINING

A. Daubert Elements

1. Testing
2. Peer Review
3. Error Rate
4. “General Acceptance”
5. Standards and Verification

Trainer’s initials_____Date_____ Trainee’s initials_____ Date_____

REVIEW

Friction Skin Comparisons

1. The basic foundations for the science of fingerprint identification are that fingerprints are _____& _____.
2. Are Galton details class or individual characteristics? _____
3. Prints made in such positions and locations and under such circumstances that they could have only been made by the person who committed the crime can be used to eliminate possible suspects. T or F
4. Give an example of a class characteristic. _____
5. Name the three opinions upon the termination of an examination.
   a. _____
   b. _____
   c. _____
6. Probable or maybe identifications can be offered in certain circumstances. T or F
7. Impressions of the hypothenar area are not commonly found on questioned documents. T or F
8. Erroneous identifications are the result of either incompetence or an incomplete examination, neither or which is acceptable. T or F
9. _____ is the term applied to a specialized study of sweat gland openings found on the papillary ridges, as a means of identification.
10. Explain why setting a minimum number of matching ridge characteristics is invalid.
    _____.
11. Define the following words in the context of the science of fingerprints.

    Distortion: _____

    Dissimilarity: _____

    Identification: _____

    Elimination: _____

    Inconclusive: _____

12. _____ is the term applied to a study of the characteristics formed by the sides of papillary ridges as a means of identification.

REVIEW

Pattern Recognition and Interpretation

1. What are the two basic foundations for the science of fingerprints?

_____& _____

2. The purpose of the Henry System of Classification is to provide an exact description of an individual's fingerprints. T or F

3. Besides the Henry System, name two other systems. _____& _____

4. List three major ridge characteristics:

   a. _____ c. _____
   b. _____

5. Who is credited with the naming of the above details? (in question 4)

   _____

6. There is common agreement among authorities on the exact definitions and types of ridge characteristics. T or F

7. A trifurcation is one of the three basic types of ridge characteristics. T or F

8. Deltas are present in not more than 65% of all fingerprint patterns. T or F

9. The _____is the center of the pattern area.

10. The _____ are the two innermost ridges which run parallel, diverge or separate and surround or tend to surround the pattern area.

11. The number of ridges intervening between the core and the delta is known as the _____ _____.

12. The _____is the point on a ridge at, or in front of and nearest the center of, where the type lines separate and surround, or tend to surround, the pattern area.

13. The terms identical and similar may be used interchangeably. T or F

14. List the two sub-patterns named for bones in the forearm. _____ & _____

15. Group and name the eight pattern types:

    a. _____ e. _____
    b. _____ f. _____
    c. _____ g. _____
    d. _____ h. _____

MODULE 2. ANALYSIS, COMPARISION, EVALUATION, VERIFICATION COMPETENCY STANDARDS

COMPLETION OF REQUIRED COURSES:

CCI/DOJ AFIS Pattern Recognition_____

CCI/DOJ Advanced Ridgeology _____

COMPLETION OF RECOMMENDED COURSES:

Advanced Palm print Comparison _____

CCI/DOJ Latent Print Techniques) _____

CCI/DOJ Latent Print Comparison _____

CCI/DOJ Distortion of Latent Prints_____

STANDARDS:

1. The trainee has demonstrated understanding of comparison procedures and has the ability to evaluate all information and perform analysis, comparison, and evaluation.

2. The trainee is able to articulate the basis of conclusion in a manner consistent with the standards of the discipline in a court of law, including the following issues:

   a. Basic premise for the use of fingerprints as a means of identification.

   b. Defend these challenges to Fingerprint Science:

      - *Lack of Scientific Research*
      - *No Statistics*
      - *Cannot Reliably Individualize*
      - *Lack of Standards*

   c. The basic Daubert Elements

      - Testing and validation
      - Peer Review
      - Error Rate
      - "General Acceptance"
      - Standards and Verification

ORAL/WRITTEN EXAM (MOCK TRIAL) COMPLETED_____

PRACTICAL COMPETENCY COMPLETED_____

FORENSIC SUPERVISOR REVIEW_____

MEMO OF TRAINING ISSUED_____

CERTIFICATE OF TRAINING

COMPLETION OF BOTH MODULES OF THE FINGERPRINT TRAINING PROGRAM CONSTITUTES COMPETENCY FORFINGERPRINT EXAMINATION. COMPLETION OF THIS PROGRAM IS TO BE DOCUMENTED BY A CERTFICATE OF TRAINING OR MEMORANDUM OF TRAINING FOR INCLUSION IN THE EMPLOYEE'S TRAINING RECORDS.

CERTIFICATE OF TRAINING OR MEMORANDUM OF TRAINING ISSUED_____

Revision History

Revision Year	Prepared by	Approved or reviewed by	Effective date
2012	Sgt. R. Cintron 2281		11/13/12