



Crime Scene
CSU Training Manual
Crime Scene and Multimedia Division



Table of Contents

1.0 Scope and Purpose3
2.0 Introduction to the Houston Forensic Science Center.....9
3.0 Ethics and General Forensic Knowledge.....12
4.0 Bias and Communication (New Section).....13
5.0 Scene and Personal Protection/Health and Safety.....15
6.0 Evidence Collection and Handling17
7.0 Firearms Safety20
8.0 Searching, Sketching and Measuring.....22
9.0 Metal Detector25
10.0 General Photography.....27
11.0 Crime Scene Videography.....31
12.0 Presumptive Tests33
13.0 Latent Print Processing35
14.0 Comparison Photography38
15.0 Impression Recovery40
16.0 Bluestar® and Leuco-Crystal Violet (LCV)42
17.0 Alternate Light Source (ALS)44
18.0 Officer Involved Shootings.....46
19.0 Courtroom Testimony48
20.0 Final Evaluation for Release to Independent Casework51



1.0 Scope and Purpose

The purpose of this manual is to provide a training outline for crime scene investigators (CSIs) assigned to the Houston Forensic Science Center (HFSC) Crime Scene Unit (CSU). **CSI trainees are CSIs employed at HFSC after meeting the requirements of education, experience, skills and who have passed the required background check and drug screen.** This manual provides CSI trainees with the theoretical background, working knowledge and skills needed to process and investigate crime scenes, complete administrative assist (AA) tasks and additional work in the laboratory. Personnel are required to comply with HFSC's policies and procedures, CSU Standard Operating Procedures, and directives from supervisory and training personnel.

CSIs are an important and integral part of the Houston Forensic Science Center. CSU management will evaluate the education, training and previous experience of each newly hired CSI. Training tasks described in this manual may be waived, taken out of order or used independently based upon the evaluation of the CSI trainee and the needs of the HFSC CSU. However, no CSI trainee will work independently or without direct supervision from the assigned trainer or CSU management unless written authorization (in the form of a signed authorization memo) has been received. Authorization will not be granted before the trainee has successfully completed a competency exam(s) and the training requirements of the HFSC Quality Manual have been addressed. See the HFSC Quality Manual for more information on authorization and competency. CSI trainees are considered authorized to use equipment (i.e. ALS, EDPL, cameras) when the equipment is used to fulfill tasks outlined in this training manual. This does not apply to specialized equipment such as the FARO and IR/UV camera or to specialized tasks such as assisting Multimedia with their after-hour functions. Authorization for this particular equipment requires separate training and a separate authorization memo that will occur outside of this training program.

Each CSI trainee must keep records of progress through the training program. These records may be in an electronic format or in a hard-copy binder or notebook. However, having some electronic records and some hard-copy records is discouraged. At the end of training, the trainee will be asked to scan his/her entire training record so that an electronic record is available. When scanned, the trainee must keep the hard copy in accordance with HFSC's records retention policy. Trainees must document training activities, mock scenes and other tasks using the applicable controlled CSU forms and/or worksheets. These must be kept in the training binder as a permanent record of completed training.

Objectives

The primary objectives of the CSU training program are to:

- Produce well-trained and positively motivated Crime Scene Investigators (CSIs) capable of meeting or exceeding standards of performance required by HFSC.
- Provide leadership by training examples; to mold and build character and equip the CSI with the tools and skills needed to ensure high quality professional service.



- Provide equal and standardized training to all newly hired CSIs and remedial training where deficiencies are identified.
- Increase the overall efficiency and effectiveness of the unit by enhancing the climate of professionalism, competency, and ethical standards.

This training guide defines training subject areas and critical tasks required for crime scene trainees to become CSIs. Trainees will learn how to properly identify, collect and preserve physical and digital evidence and investigate scenes. Authorization as a CSI documents that the CSI has demonstrated competency in use of equipment, best practices and supporting standard operating procedures (SOPs) to process and investigate crimes, to author clear, concise and accurate reports and to testify in courts of law.

CSI trainees are expected to demonstrate understanding of the general aspects of crime scene investigation skills throughout the training program. Essential processing and investigation skills are evaluated through a documented competency test program. Field training is designed to provide consistent and standardized training while ensuring the trainee possesses the skills required of a competency-tested CSI. Upon successful completion of supervised casework, the CSI will be authorized to work independently at crime scenes and the vehicle examination building (VEB).

Training

This training program is designed to be fluid to suit the needs of individual trainees. The trainee will go through administrative training where CSU policies and procedures, the HFSC Quality Manual and other applicable manuals will be discussed. Following the administrative training, the trainee will complete a written self-assessment and discuss the assessment with the CSU Administrative Supervisor or other designee. This self-assessment will review the types of scene experience, if any, the trainee had previously. The trainee will also complete a mock scene that will gauge their current skill set. At the end of both activities, the trainee will meet with their assigned field training officer (FTO) and Administrative Supervisor to determine a plan of action for the training program.

Weekly meetings will occur throughout the training program. The trainee, FTO and Administrative Supervisor will be required to attend. If possible, the shift supervisor should attend as well. During these meetings, the activities of the previous week will be discussed, and goals will be set forth for the upcoming week. If the opportunity to perform the skills and abilities listed on the checklist for each section has not arisen on a scene, these actions may be performed on mock casework. When this occurs, it will be discussed and documented during the weekly meeting. In addition, these weekly meetings will afford all parties the opportunity to openly discuss the value of the training program, the progress of the trainee and how the training program can be catered to best suit the trainee's needs. If the trainee exhibits deficiencies, the trainer and Administrative Supervisor shall work together to develop a plan to remediate the deficiencies. The trainer shall ensure the deficiencies are fully documented on the Weekly Meeting Report form. If the trainee does not respond appropriately to the



plan developed and deficiencies are not corrected, the trainer, Administrative Supervisor and CSU Directors will determine a course of action to be taken. This action could include termination of employment.

If the weekly meeting is not held, the trainee's training binder must include the reason(s) why documented on the Weekly Meeting Form. This notation must be acknowledged (i.e. by signature or initials) by the trainee, trainer(s) and Administrative Supervisor. Likewise, if any of the individuals are not present at the weekly meeting, the reason(s) (i.e. off, in court, on a scene) must be documented on the Weekly Meeting Form.

The training program is divided into sections. Each section includes objectives, skills and abilities, reading and assignment options. Required readings and assignments will be based on the trainee's previous experience and progress in the training program. In some instances, assignments/readings may be reduced and in others, additional assignments/readings may be given. This will be determined at the weekly meetings and documented on the Weekly Meeting Report form.

In addition to completing readings and assignments given during the weekly meeting, trainees will attend scenes with an FTO. A Scene Observation Report shall be completed for each scene the trainee attends. The Scene Observation Report is written documentation of the trainee's skills and abilities demonstrated on each scene. If no scene processing is completed by the trainee, this must be documented in the 'Trainer Comments' portion of the report. The trainee must review and sign each observation report. The signature indicates the trainee has read the report, is aware of its contents and has had an opportunity to discuss the report's contents with the trainer. A copy of the signed observation report shall be kept in the trainee's training binder.

Once the FTO and Administrative Supervisor are confident that the trainee can complete the skills and abilities for each section, a competency test will be administered. (Note: Testing shall not be completed on the same day that assignments are performed.) Upon successful completion of the competency test and oral testimony questions, the trainee will then be authorized for supervised case work in that section. Oral testimony questions regarding crime scene processing, and investigation will be given to the trainee prior to authorization for supervised casework. When all sections of the CSU training program have been successfully completed, and the trainee is signed off for supervised casework in each section, they will perform their final evaluation scenes. Once the final evaluation scenes are completed, the associated reports are reviewed, mock trial is completed, **written exam is completed** and all aspects are found to be satisfactory, the CSI trainee will be signed off for independent casework.

When HFSC authorizes an individual to function independently as a CSI, HFSC expects that person to:

- Effectively communicate with officers, detectives, and other members of CSU.
- Evaluate scenes and request additional resources from CSU or the requesting agency when necessary.



- Appropriately delegate tasks, give clear instructions, and make independent decisions about scene processing. This includes monitoring and assisting other CSIs on scene and providing guidance where needed.
- Exhibit good time management skills, including managing interruptions and additional requests made by officers, detectives, or other CSU personnel.

Competency Testing and Authorization

All CSIs, regardless of prior training and/or experience, must successfully complete required competency test(s) and receive a signed authorization memo prior to conducting supervised casework.

Supervised Casework Authorization

Authorization may be granted on a task-basis, meaning it is not necessary for a trainee to complete the entire training program before being authorized to conduct specific tasks on a scene. The authorization memo for supervised casework (a trainer directly observes the trainee) will clearly describe the tasks the trainee can complete and equipment the trainee can use on scene or in the laboratory. An authorization memo for supervised casework is issued when the competency test or tests have been successfully completed for each section.

Evaluation Phase

Upon successful completion of all required competency tests and supervised casework (amount will be determined during weekly meetings), the trainee will move into the evaluation phase. The evaluator will be an observer (supervisor or their designee) and will evaluate and document the trainee's ability to meet pre-determined performance standards. The evaluation phase will consist of at least one actual scene and one vehicle at the Vehicle Examination Building (VEB) where the trainee is able to complete scene/vehicle processing per the CSU SOP. The trainee will also be evaluated on his/her ability to effectively communicate with all involved parties, evaluate resources, delegate tasks and exhibit good time management. The trainee must receive a three (3) or higher on each applicable section of the Scene Observation Report for each evaluation scene in order to move on to independent casework.

In addition, the trainee must complete and pass a written exam that encompasses the topics covered in the training manual.

Independent Casework Authorization

An authorization memo will be issued for independent casework after the evaluation scenes **and written exam** have been successfully completed. The trainee is unable to work scenes independently until this signed memo is obtained.



Duties and Responsibilities of CSU Personnel Involved in the Training Program

Trainees will:

- Follow the directives of their trainers and other CSU supervisors and personnel. It is the responsibility of the trainee to learn HFSC's corporate policies and procedures, CSU SOPs, the Quality Manual and the Health and Safety Manual. The trainee is expected to follow these documents.
- Participate in a weekly meeting with the CSU Administrative Supervisor (or designee) and FTO. During these meetings, the administrative supervisor will review the training to date, the trainee's strengths, any areas needing improvement and will detail a plan of action moving forward. This will be documented on the Weekly Meeting Report form.
- Take an active part in the training program by showing initiative and eagerness to learn. Trainees who are having difficulty with a trainer or the program shall address the issues at the weekly meeting or through the chain of command.

The CSU Administrative Supervisor will ensure that:

- Administrative training is provided to each trainee. This instruction will include an introduction to the Houston Forensic Science Center and the organization of the company, ethics training, an introduction to our Quality program and detailed expectations of the trainee during the training program.
- A self-assessment and preliminary mock scene are completed. Based on the results of these two assignments, required training program activities (including required reading and assignments) will be determined.
- Weekly meetings are held with the trainee, FTO and Administrative Supervisor (or designee). The shift supervisor should attend, if available. Meeting contents will be documented on the Weekly Meeting Report and signed by all parties.
- Documentation of training is reviewed, and authorization memos are completed.
- CSU Management is aware of the progress of each trainee.
- A trainee's performance on evaluation scenes is observed and rated in an objective manner using the Scene Observation Report. If the Administrative Supervisor is not able to complete the scene evaluation, a designee will be appointed. The designee must be a member of Crime Scene Management or an FTO. Evaluations must be sincere and presented in a clear and straightforward manner, emphasizing the positive and negative aspects of performance. Evaluations should reflect technical skills as well as thought processes, judgment and decision-making.



CSU Shift Supervisors will ensure that:

- They are aware of the trainee's progress and dispatch calls for service appropriately.
- The trainee meets directives outlined in the training program and/or discussed in weekly meetings.
- Scene Observation Report forms are completed by the trainer.

The **trainer**, also known as a field training officer (FTO), is a designated CSI who provides instruction to the trainee and works with CSU management to ensure the trainee follows and progresses through this training program. **These FTOs are qualified crime scene investigators that have been authorized to perform the tasks described in the training modules.** Direct supervision of the trainee while on scene and while completing training tasks is an important role of the trainer. In addition, the trainer will:

- Ensure the trainee properly applies all applicable CSU policies and procedures.
- Conduct a full review of the trainee's mock and supervised casework. This includes reviewing photographs and notes on scene, and a full case record review prior to submission to a supervisor. Areas needing improvement, such as photos, note-taking, report wording, etc. will be reviewed with the trainee and documented on the Weekly Meeting Report.
- Intervene in the trainee's actions, as required, to avoid situations such as:
 - Imminent physical danger
 - Immoral, illegal, or unethical conduct
 - Compromising the effective operation of HFSC or its goals, objectives, or policies
 - Any act which may compromise a crime scene or evidence item
- Complete Scene Observation Reports.
- Effectively communicate with the Administrative Supervisor and shift supervisor regarding the trainee's progress, including discussing the trainee's strengths and weaknesses.
- To provide effective and timely feedback, the trainer will discuss scene processing and daily activities with the trainee by the end of each shift. Scene Observation Report forms for the week shall be completed by the next weekly meeting.
- Ensure that trainees are in a constant learning environment.
- When possible, arrange for the trainee to shadow analysts in other HFSC disciplines.

Program Documentation

The trainee's progress must be documented on the Scene Observation Report form and the Weekly Meeting Report form. The trainee is responsible for maintaining a training binder as required throughout this training manual. Hard copies must be kept in accordance with HFSC's records retention policy.

Trainers shall discuss a trainee's performance, deficiencies, or other personnel topics only with other trainers and CSU management. Discussions may be held with other disciplines' supervisors or managers on a need-to-know basis and should be limited in scope to a specific scene or issue.



2.0 Introduction to the Houston Forensic Science Center

CSU and HFSC Corporate Policies and Procedures

- Ethics/Texas Forensic Science Commission
- Health and Safety
- Security Manual
- Transparency
- HFSC's corporate policies and procedures

HFSC

- Corporate structure
- Biology
- Firearms
- Latent Prints
- Multimedia
- Seized Drugs
- Toxicology
- Quality
- Client Services/Case Management (CS/CM)

Quality Division

- Accreditation
- Quality Manual
 - Impartiality and confidentiality
 - Personnel training and authorization
 - Proficiency testing
 - Nonconforming work
 - Corrective actions
 - Internal Audits
 - Blind Proficiency Program
- Qualtrax

Crime Scene Unit

- Internal Administrative Procedures
 - Administrative Guidelines Manual
 - CSU SOP
 - Schedule
 - Unit on-call number
 - Internal deadlines
 - Daily vehicle inspection
 - Weekly briefing
 - Weekly stocking/cleaning
 - Gas code/vehicle keys/car wash
 - VEB log
 - Call log



- CSU Training Program
 - Training Manual
 - Competency tests
 - Authorization memos
 - Weekly Meeting Report
 - Scene Observation Report
 - Final evaluation scenes

- Documentation
 - Forms
 - Location (within office or online)
 - Using correct version
 - Required information
 - Use of required forms, including specialized forms
 - Case files
 - Required components
 - Report writing/report writing guidelines
 - Assembly
 - Peer review
 - Administrative/technical reviews
 - Corrections/return workflow

- Computer Operations
 - JusticeTrax
 - Search by agency case number (ACN) and forensic case number (FCN)
 - Enter lead, assist, and administrative assist (AA) reports
 - Draft complete
 - Correcting errors and resigning
 - RMS
 - Logging in
 - Read officer's reports
 - Enter evidence
 - Print RMS form for case record
 - Correcting errors
 - Resource guide
 - EMS
 - Transferring firearms evidence
 - Qualtrax
 - Log in/Access documents without logging in
 - Locate documents
 - Upload SOQ and certificates
 - Taking a test
 - IR/CAR workflows



- One Drive
 - Creating files and folders
 - Uploading documents
 - Sharing documents
 - Office 365
 - HFSC dashboard
- HFSC Intranet site
 - CSU page
 - Documents
 - Company meeting videos
 - Human resources
 - Benefits information
 - FAQ
- HFSC Internet site
 - HFSC e-Discovery and Public Records
 - Corrective actions
 - Board of Directors meeting archives
- Paylocity
 - Log in
 - Clocking in and out
 - Comments for coming in or staying late
 - Requesting time off
 - Checking leave balances
 - Changing personal information
- Copier
 - Retrieving printouts
 - Scanning and emailing
 - Changing toner and other cartridges



3.0 Ethics and General Forensic Knowledge

Objective

To familiarize the trainee with expected ethical behavior and provide information on general forensic knowledge for Texas Forensic Science Commission (TFSC) licensing.

Reading

- HFSC Code of Ethics
- Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists
- Texas Forensic Science Commission Licensing Exam Reading Material, Domains V
- Ethics in Forensic Science: A Review of the Literature on Expert Testimony, Journal of Forensic Identification, 2002, 52 (4):449-462, K. Saviers
- *Criminalistics, An Introduction to Forensic Science, 9th Edition, R. Saferstein 2007. Chapter 1*
- *Criminal Investigation, 5th Edition, Charles R. Swanson 1992. Chapter 1*

Assignment Options

- Complete Criminalistics Chapter 1 questions (found at the end of the chapter)
- Complete Criminal Investigation Chapter 1 questions (found at the end of the chapter)

3.0 Ethics and General Forensic Knowledge						
Reading:	Date Read	Trainer initials		Trainee initials		
HFSC Code of Ethics						
Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists						
Texas Forensic Science Commission Licensing Exam Reading Material, Domains V						
Ethics in Forensic Science, JFI 2002, 52 (4): pgs. 449-462						
<i>Criminalistics, Ch. 1</i>						
<i>Criminal Investigation, Ch. 1</i>						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
<i>Criminalistics, Ch. 1 Questions</i>						
<i>Criminal Inv., Ch. 1 Questions</i>						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



4.0 Bias and Communication (New Section)

Objective

To educate the trainee about different types of bias and how to avoid bias during scene investigation; to provide information on varying communication styles and how to communicate effectively.

Reading

- Crime Scene Unit SOP Sections _____
- *Effective Expert Witnessing Practices for the 21st Century, 5th Edition*, J. Matson 2013. Chapter 6 pgs. 78-85, Chapter 7, Chapter 10 pgs. 131 – 154 and Chapter 11
- Texas Forensic Science Commission Licensing Exam Reading Material, Domains VI
- Article - The Bandwagon Bias: The Dangers of Groupthink
<https://www.interaction-design.org/literature/article/the-bandwagon-bias-the-dangers-of-groupthink>

Assignment Options

- View Real World Webinar: Understanding Communication Styles and Personality Preferences
https://www.youtube.com/watch?time_continue=2908&v=ZeVBjtWeJb8&feature=emb_title
- Ted Talk – Three Kinds of Bias that Shape Your Worldview
https://www.ted.com/talks/j_marshall_shepherd_3_kinds_of_bias_that_shape_your_worldview/transcript?t-722655
- Article and Ted Talk – CSI: Current Research Into The Impact of Bias On Crime Scene Forensics Is Limited – But Psychologist Can Help
<https://phys.org/news/2019-10-csi-current-impact-bias-crime.html>
- Complete Section 4 – Readings and Ted Talk Questions



4.0 Bias and Communication						
Reading:		Date Read	Trainer initials		Trainee initials	
Crime Scene Unit SOP Section(s)						
Effective Expert Witnessing, Ch. 6 pgs.78-85; Ch. 7; Ch. 10 pgs.131-154; and Ch. 11						
Texas Forensic Science Commission Licensing Exam Reading Material, Domains VI						
The Bandwagon Bias: The Dangers of Groupthink						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
View Real World Webinar: Understanding Communication						
Ted Talk – Three Kinds of Bias that Shape Your Worldview						
Article and Ted Talk – CSI: Current Research						
Ted Talk Questions						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



5.0 Scene and Personal Protection/Health and Safety

Objective

To ensure the trainee is aware of potential health and safety hazards and to properly protect themselves, the scene and evidence collected at the scene from contamination. Also, to ensure the trainee is able to provide guidance to first responders and non-law enforcement professionals to minimize loss, degradation, contamination or alteration to secure and preserve the integrity of the scene.

Reading

- Crime Scene Unit SOP Sections _____
- HFSC Health and Safety Manual
- *Practical Crime Scene Processing and Investigation, 2nd Edition*, Gardner 2012. Pages 119-121

Skills and Abilities

- Understanding the various biohazards that can be encountered in scene work
 - Body fluids
 - Bloodborne pathogens such as HIV, hepatitis and TB
 - Needle sticks
- Using Narcan kits
- Appropriate use of red barrier tape at crime scenes
- Appropriate use of PPE inside the red tape
- Appropriate use of PPE outside the red tape
- Correct use of biohazard markings on packaging
- Cleaning drying cabinets
- Proper use of gas masks
- Location of HFSC's AEDs and first-aid kits
- Accidents
 - Vehicle
 - Personal

Assignments Options

- While accompanying the trainer to a scene for observation only, the trainee will verbally advise the trainer where they would set up the red tape perimeter at a minimum of two crime scenes. The trainee will advise why they chose the tape placement and how this will preserve the integrity of the scene. The trainer must agree with the placement of the tape and explanation provided.
- Don proper PPE prior to entering a crime scene with the trainer.
- Clean a drying cabinet with the approved cleaner.



Criteria for Competency Testing

Final competency for release from this portion of the training program will be determined based on the trainee’s cumulative performance in setting up a red tape perimeter and the appropriate use of PPE on scenes and when packaging evidence.

Observation of Trainee During Supervised Casework Phase

During the training period, the trainee will observe the trainer, or another CSI, establish a perimeter with red tape and utilize proper PPE. The trainee will then establish the perimeter and ensure personnel inside the perimeter wear proper PPE.

5.0 Scene and Personal Protection / Health and Safety						
Reading:		Date Read	Trainer Initials		Trainee Initials	
CSU SOP Section(s)						
HFSC Health and Safety Manual						
Practical Crime Scene Processing, pgs. 119-121						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Biohazards						
Using Narcan kit						
Red barrier tape						
PPE						
Drying Cabinets						
Gas masks						
AED/First aid kits						
Accidents						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Red barrier tape setup						
PPE						
Drying cabinet cleaning						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



6.0 Evidence Collection and Handling

Objective

To familiarize the trainee with collection and packaging of evidence to ensure there is no loss or deleterious changes to it. The trainee will also learn how to properly complete the various chain of custody forms used by CSU.

Reading

- Crime Scene Unit SOP Sections _____
- HFSC Evidence Handbook
- *Practical Crime Scene Processing and Investigation, 2nd Edition*, Gardner 2012. Chapter 1, Chapter 2

Skills and Abilities

- Separation of items
 - How and when to package together and mark the outer container
- Proper marking and securing of evidence for transport from the scene
- Chain of custody
- Currency worksheets
- Drying wet evidence
- Gunshot residue collection
 - Hands
 - Objects
- Biological evidence collection and packaging
 - Contact DNA
 - Saliva DNA
 - Blood DNA
- Trace evidence collection and packaging
 - Hairs and fibers
 - Gunshot residue
- Narcotics
 - Submitting to NOCC
- Collection and packaging of devices with sharp points or edges that can puncture or cut skin
- Temporary storage locations in CSU
 - Logs
 - Integrity seals
- Original packaging
- Biohazard trash
- Entering items into RMS
- Submission to the HPD Property Room
- Transferring items into EMS



Assignments Options

The trainee will record all required notes for each assignment on the appropriate note pages, and a copy will be kept in the training binder.

- Photograph and process another CSI for gunshot residue using a GSR kit.
- Process one seat in an HFSC vehicle for hair/fiber evidence.
- The trainer will create a mock crime scene where the trainee's only duty is to collect and package evidence. The items may include:
 - An empty bottle or can with "blood" and possible saliva
 - Cartridge cases
 - Money
 - If money is collected, another CSI shall be used to verify the currency count.
 - Cell phone
 - If a cell phone is collected, a chain of custody form will be completed transferring the cell phone to an "officer."
 - Five other items of the trainer's choice, one with a significant amount of dried "blood"

Criteria for Competency Testing

Final competency for release from this portion of the training program will be determined based on the trainee's cumulative ability to handle and package evidence, manage the associated records, and submit evidence to the Houston Police Department Property Room.

Observation of Trainee During Supervised Casework Phase

Throughout the training period, the trainee will handle, collect, and package all evidence at the direction of the trainer at the scene. The trainer will observe and correct any problems prior to leaving the scene.



6.0 Evidence Collection and Handling						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
HFSC Evidence Handbook						
Practical Crime Scene Processing, Ch. 1 & 2						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Separation of items						
Proper marking for transport						
Chain of custody forms						
Currency worksheets						
Drying wet evidence						
GSR collection						
Biological evidence collection & packaging						
Trace evidence collection & packaging						
Narcotics						
Collection and packaging sharps						
Temporary storage locations – CSU						
Original packaging						
Biohazard trash						
Entering items into RMS						
Submission to HPD Property Room						
Transferring items into EMS						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Process subject for gunshot residue						
Trace evidence collection						
Mock scene						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



7.0 Firearms Safety

Objectives

The objective of this module is to instruct the trainee to safely handle and properly document and collect firearms at a crime scene.

Reading

- Crime Scene Unit SOP Sections _____
- Applicable section of the Firearms SOP

Skills and Abilities

- Safe handling of firearms
 - Safety
 - To preserve trace evidence
 - Possible patent prints
- Swabbing firearms for blood and/or contact DNA
- Swabbing cartridges and/or magazines
- Securing firearms for transport and packaging
- Submitting cartridge cases to the Property Room
- Retaining firearms evidence for NIBIN and/or latent print examination

Assignment Options

The trainee will record all required notes for each assignment on the appropriate note pages, and a copy will be kept in the training binder.

- Attend firearms safety training with personnel from the HFSC firearms section.
- Swab and unload a magazine with mock firearm evidence.
- Swab the recommended areas for contact DNA and blood DNA on a mock evidence firearm.

Criteria for Competency Testing

Final competency for release from this portion of the training program will be determined based on the trainee's performance on the assignments and any cumulative observed performance on actual crime scenes.

Observation of Trainee During Supervised Casework Phase

Throughout the training program, the trainee will document and process firearms evidence. The trainer will ensure the firearm is handled safely and processed correctly.



7.0 Firearms Safety						
Reading:	Date Read	Trainer initials		Trainee initials		
CSU SOP Section(s)						
Applicable section(s) of the Firearms SOP						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Safe handling						
Checking for patent prints						
Swabbing firearm						
Swabbing cartridges/magazines						
Securing for transport						
Property Room submission						
Retain for latent/NIBIN exam						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Attend firearms safety training						
Swab and unload a magazine						
Swab a firearm for contact and blood DNA						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



8.0 Searching, Sketching and Measuring

Objective

To instruct the CSI trainee on how to use available manual measuring methodologies, take accurate and thorough measurements and produce final diagrams using computer software.

Reading

- Crime Scene Unit SOP Sections _____
- *Practical Crime Scene Processing and Investigation, 2nd Edition*, Gardner 2012. Pages 183-201

Skills and Abilities

- Ability to search using the four common search patterns
 - Line search
 - Grid search
 - Zone search
 - Spiral search
- Baseline measuring method
- Rectangular coordinate method
- Triangulation
- Birds-eye/overhead/floorplan view sketch
- Exploded view sketch
- Elevation sketch
- Items required on a sketch
- Creating a final diagram
 - **Scene PD**
 - Log in
 - Choosing a view
 - Adding shapes
 - Adding legends, text, accreditation statement
 - Saving in the correct format
 - How to attach the final sketch in JusticeTrax

Assignment Options

The trainee will record all required notes for each assignment and store the notes in his/her training binder or scan them into his/her electronic training record.

- The trainer will set up an indoor mock scene that incorporates multiple rooms and at least 5 evidence items, with one item not in plain view. At least three bullet defects should be placed on vertical surfaces (such as a door, wall, back of a chair, etc.)
 - Utilize one search method to search for evidence
 - Properly and completely measure the scene using appropriate measuring methodologies
 - Produce a final diagram using Scene PD software



- Set up two separate mock outdoor scenes that incorporate a variety of scenarios encountered on scenes. At least one scene should include a vehicle and at least one scene should include bullet defects on vertical surfaces. Both scenes should include at least ten items of evidence.
 - Utilize at least one search method on each scene to search for evidence
 - Properly and completely measure the scene using appropriate measuring methodologies
 - Produce a final diagram for each scene using Scene PD software

Criteria for Competency Testing

Throughout this portion of the training, the trainee will be evaluated based on the following criteria:

- A demonstrated ability to utilize the common search methods
- A demonstrated working knowledge of the following measuring methodologies:
 - Baseline
 - Triangulation
 - Rectangular coordinates
- A demonstrated ability to properly use measuring equipment
 - Tape measures
 - Laser distance measurers
 - Rolling wheel
- A demonstrated ability to properly sketch and document measurements
- A demonstrated ability to produce an accurate final diagram using Scene PD software

Final competency for release from this portion of the training program will be determined based on the trainee's cumulative performance in sketching at scenes and producing actual crime scene diagrams.

Observation of Trainee During Supervised Casework Phase

The trainer will observe the trainee complete scene measurements to ensure they are done correctly. The trainer will review the completed sketch and measurements prior to leaving the scene.



8.0 Searching, Sketching and Measuring						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Practical Crime Scene Processing, pgs. 183-201						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Search using four common patterns						
Baseline measuring						
Rectangular coordinate measuring						
Triangulation						
Overhead / floorplan sketch						
Exploded view sketch						
Elevation sketch						
Items required on a sketch						
Create final diagram						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Mock indoor scene & final diagram						
Mock outdoor scene 1 & final diagram						
Mock outdoor scene 2 & final diagram						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



9.0 Metal Detector

Objective

The objective of this module is to instruct the trainee on the use of the metal detector.

Reading

- Crime Scene Unit SOP Sections _____

Skills and Abilities

- Setting up the metal detector
- **Performance check the metal detector**
- Use of the metal detector to search a scene

Assignments

The trainee will record all required notes for each assignment on the appropriate note pages, and a copy will be kept in the training binder.

- Complete a performance check of the metal detector prior to use
- Utilize the metal detector to locate at least five cartridges and/or cartridge cases hidden in grass/weeds by the trainer.

Criteria for Competency Testing

Final competency for release from this portion of the training program will be determined based on the trainee's performance on the assignments and any cumulative observed performance on actual crime scenes.

Observation of Trainee During Supervised Casework Phase

Throughout the training period, the trainee will utilize the metal detector whenever reasonably possible at crime scenes.



9.0 Metal Detector						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Set up metal detector						
Performance check metal detector						
Searching the scene						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Complete performance check						
Mock scene search						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



10.0 General Photography

Objective

The objective of this module is to familiarize the trainee with the methods and procedures used to document a crime scene and evidentiary items through photography.

Reading

- *Crime Scene Photography, 3rd Edition*, Chapters 2, 3, 4, pg. 126-154 (Robinson 2016)
- Crime Scene Unit SOP, Sections _____
- Camera manual sections related to the following activities:
 - Check/change date on camera
 - Change and charge the battery
 - Change lenses
 - Attach, detach, and utilize the detachable flash
 - Insert and remove the memory card
 - Utilize the camera in aperture priority and manual mode
 - Manual and auto focus
 - Review photos
 - Adjust ISO speed (sensitivity)
 - Use exposure compensation
 - Mount the camera on a tripod

Skills and Abilities

- Composition and sequence of photographs
- Camera settings
 - ISO
 - White balance
 - Date and time
- Specialized photography
 - Long exposure
 - **Nighttime**/Ambient light
 - Rain
 - Overview of alternate light source photography
 - Overview of comparative photography
 - Overview of **Bluestar**[®] photography
- Subject photography
 - Overalls of all four sides, face and hands
 - Distinguishing marks
 - Evidence on clothing
 - Injuries/bruising (or lack thereof)
 - Use of a scale
 - Bite marks
- Detachable flash
 - eTTL
 - Manual
 - Off camera



- Documentation
 - Spot checking photos on scene
- Disposition of photos
 - Uploading
 - Transferring photos to CD/DVD for case record
 - CD/DVD check
 - Photo confidentiality
- Dataworks
 - Log in
 - Enter case information
 - Upload images
 - Verify count against e-mail
- **Video recording using camera**

Assignment Options

The trainee will record all required notes for each assignment on the appropriate note pages, and a copy will be kept in the training binder.

- **Nighttime mock scenes** – Visit several places (number to be determined during weekly meeting) at night under several lighting conditions and take photographs at the direction of the trainer. The trainee must be able to document the scene and mock evidence adequately under all conditions. At least one scene should contain a vehicle with “damage” and “blood.”
 - FTOs should consider scenes with the following conditions:
 - Artificial lighting (i.e. a street with streetlights)
 - Very dark with no external lighting present (i.e. a park)
 - Mixed lighting (i.e. a park with some artificial lighting and other areas with none)
- Shooting/Death investigation mock scenes – the trainer should set up at least two mock scenes. At least one scene should require the trainee to clearly link distant areas together (i.e.: downstairs in a residence to upstairs, from a parking lot into a store, etc.)
 - FTOs should incorporate the following types of evidence into the mock scenes:
 - A “body” of some sort, a vehicle, and firearms evidence (bullet strikes, bullet defects cartridge cases, projectiles, etc.).
 - An indoor scene with furniture items and evidence on the floor, on furniture, and on the walls.

Criteria for Competency Testing

The trainee will be evaluated based on the following criteria:

- Includes the cover sheet at the beginning of the case photographs.
- Understands the concepts of photograph composition and progression.
- Knows and demonstrates the fundamentals of overall, mid-range, and close-up views, and the importance of each type of photograph.
- Demonstrates proficiency in photographing scenes in various lighting conditions.
- Demonstrates an understanding of the internal and external flash units
 - TTL metering system
 - Visual alerts of flash failure
 - Visual changes on the external flash unit
 - Adjusting flash compensation on the camera and external flash



- Setting up and using a master flash
- Uses pop-up flash as opposed to the external flash appropriately
- Ability to upload images to Dataworks and create a CD/DVD for case record

Final competency for release from the photography portion of the training program will be determined based on the trainee's performance on assignments and his/her cumulative performance in photographing mock crime scenes/evidence.

Observation of Trainee During Supervised Casework Phase

In this segment of training the trainee will be expected to verbalize a plan for photography and carry it out. The trainer should do a spot check of the photographs throughout the scene to ensure photographs are in focus, properly exposed and appropriate evidence is documented. The trainer should review all photographs prior to leaving the scene. This will be documented by scribing their initials next to the trainee's initials on the notes form to indicate the photography check was completed.

All crime scene images will be evaluated for quality and thoroughness by the trainer on a computer after each scene.



10.0 General Photography						
Reading:		Date Read	Trainer initials		Trainee initials	
Crime Scene Photography, Ch. 2, 3, 4; pgs. 126-154						
CSU SOP Section(s)						
Camera manual sections						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Composition and sequence						
Camera settings						
Specialized photography						
Subject photography						
Flash/ Detachable Flash						
Documentation and spot check						
Disposition of photographs						
Dataworks						
Video recording using camera						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Nighttime mock scene 1						
Nighttime mock scene 2						
Shooting/death mock scene 1						
Shooting/death mock scene 2						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



11.0 Crime Scene Videography

Objective

To familiarize the trainee with the methods and procedures used to document an overall crime scene and individual evidentiary items through videography.

Reading

- CSU SOP Section _____
- *Practical Crime Scene Processing and Investigation, 2ND Edition*, Pages 178-180 (Gardner, 2012)
- Camcorder manual sections related to the following:
 - Changing and charging the battery
 - Inserting and removing the SD card
 - Restoring default settings
 - Playing video for review
 - Night shot
 - Inserting audio jack in the “mic” plug
 - Standard settings
 - Anti-tilt turned off
 - Front light turned off during daylight and on at night
 - Video format on AVCHD (Advanced Video Coding High Definition)
 - Date/time

Skills and Abilities

- General camcorder equipment uses (including audio plug)
- Exposure controls
- External mounted light source
- Panning and walking speed
- General crime scene videography methodology (overall, mid-range, close-up)
- Transferring video to DVD and DVD check

Assignment Options

The trainee will record all required notes for each assignment and store the notes in his/her training binder or scan them into his/her electronic training record.

- The trainee should observe an indoor and outdoor scene, each with various pieces of evidence. The trainee will develop a plan, or route, for video of each scene and be able to verbalize to the trainer why they developed that plan/route for the video.
- The trainee should visit several places (number to be determined during weekly meeting) to practice videography skills on scenes and with evidence at the direction of the trainer.
 - FTOs should consider areas with the following conditions:
 - Mixed lighting
 - An area where proper use of the external mounted video light is needed
 - An area where proper use of the external mounted video light is needed for fill lighting
 - Various terrains (hills, stairs, water, etc.)
- These videos will be viewed by the trainee and trainer. A critique will be completed and discussed at the weekly meeting.



Criteria for Competency Testing

The trainee will be competency tested based on the following criteria:

- Includes the photo board at the beginning of the case video
- Knows and demonstrates the fundamentals of crime scene videography including overall, mid-range, and close-up views, and what constitutes properly and completely documenting a crime scene.
- Demonstrates proficiency in nighttime, daylight, and interior videography
- Demonstrates ability to transfer video to DVD

Final competency for release from this portion of the training program is determined based on the trainee’s performance on assignments and his/her cumulative performance in video recording of mock crime scenes.

Observation of Trainee During the Supervised Casework Phase

All crime scene videos completed during supervised casework must be reviewed for quality and thoroughness by the trainer prior to leaving each scene.

11.0 Crime Scene Videography						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Practical Crime Scene Processing, pgs. 178-180						
Camcorder manual sections						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
General use						
Exposure controls						
Mounted light source						
Panning and speed						
General methodology						
Transfer video to DVD and DVD check						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Mock indoor scene						
Mock outdoor scene - day						
Mock outdoor scene - night						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



12.0 Presumptive Tests

Objective

To instruct the trainee in the use of phenolphthalein for the presumptive testing of suspected blood.

Reading

- Crime Scene Unit SOP Sections _____
- *Practical Crime Scene Processing and Investigation, 2nd Edition*, Gardner 2012. Pages 353-355.

Skills and Abilities

- Use of phenolphthalein
- Positive and negative controls
- Required information in notes

Assignments

The trainee will record all required notes for each assignment on the appropriate note pages, and a copy will be kept in the training binder.

- Create at least five stains on different substrates, with at least two stains that are not blood or synthetic blood (to create a negative result).
- The trainee will test stains of suspected blood using phenolphthalein.

Criteria for Competency Testing

Throughout this portion of the training, the trainee will be evaluated based on the following criteria:

- Ability to properly apply phenolphthalein reagents
- Ability to properly interpret results of the phenolphthalein test

Final competency for release from this portion of the training program will be determined based on the trainee's performance on assignments and the cumulative performance in using phenolphthalein over the course of the training period.

Observation of Trainee During Supervised Casework Phase

The trainee will process actual casework using presumptive testing whenever the opportunity arises. The trainer will ensure the control tests are completed, and the trainee has properly conducted the test and interpreted the results.



12.0 Presumptive Tests						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Practical Crime Scene Processing, pgs. 353-355						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Use of phenolphthalein						
Positive and negative controls						
Required information in notes						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Suspected blood test 1						
Suspected blood test 2						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



13.0 Latent Print Processing

Objective

To teach the trainee how to use powder processing procedures and lighting techniques to reveal latent print evidence and to preserve and collect latent print evidence for further analysis. See the Comparative Quality Photography portion of this training manual for additional latent print information.

Reading

- Crime Scene Unit SOP Sections _____
- *Practical Crime Scene Processing and Investigation, 2nd Edition*, Gardner 2012. Pages 254-274, 278-281.
- *Scott's Fingerprint Mechanics*, by Robert Olson; Chapter 34, pg. 111-139, Chapter 66, pg.209-232.

Skills and Abilities

- Surface evaluation
- Use of lighting techniques for searching
- Identification and documentation of patent prints
- Powder selection
 - Volcanic powders
 - Magnetic powders
 - Bi-chromatic powders
 - Mix powder
 - Clean powder processing
- Brush selection, care and handling
- Small Particle Reagent
- Selection of lifting medium
 - Tapes
 - Gel lifts
 - Flexible casting material
- Completing the lift card and envelope

Assignment Options

The trainee will record all required notes for each assignment and store the notes in his/her training binder or scan them into his/her electronic training record.

- The trainee may be given various items to process in the laboratory, including:
 - Glass items
 - Metal items (i.e. cans)
 - Plastic items
- The trainee must successfully demonstrate the use of 2", 3" and flexible tape, gel lifts and flexible casting.
- Each item will be cleaned prior to the activity, and the trainer will place latent prints to be recovered onto the items.



Criteria for Competency Testing

Throughout the training program, the trainee will be evaluated based on the following criteria:

- Ability to locate proper surfaces for processing
- Ability to process each surface using the correct technique
- Ability to maximize the contrast of powder-processed impressions
 - The trainee must process to the ideal development point for each impression, not producing consistently light or heavy impressions
- Ability to lift developed impressions with all mediums
- Ability to fill out lift cards and the envelope correctly.

Final competency for release from this portion of the training program is determined based on the trainee's performance on the assignments and the cumulative observed performance processing crime scenes and vehicles for latent impressions.

Observation of Trainee During Supervised Casework Phase

When processing vehicles and/or evidence at scenes, the item(s) processed will be reviewed by the trainer prior to leaving the scene to ensure all areas were sufficiently processed, and all developed prints were recovered. Final documentation of the latent print lift cards will be reviewed by the trainer prior to being submitted to the HPD Property Room.



13.0 Latent Print Processing						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Practical Crime Scene Processing, pgs.254-274; 278-281						
Scott's Fingerprint Mechanics, Ch. 34 pgs. 111-139; Ch. 66 pgs. 209-232						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Surface evaluation						
Use of lighting						
Powder and brush selection & care						
Small Particle Reagent (SPR)						
Lifting medium selection						
Completing lift card & envelope						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Process glass item(s)						
Process metal item(s)						
Process plastic item(s)						
Demonstrate use of 2" & 3" flexible tape, gel lift, and flexible casting materials						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



14.0 Comparison Photography

Objective

To instruct the trainee in the proper methods of capturing comparison quality images of impression evidence.

Reading

- Crime Scene Unit SOP Sections _____

Skills and Abilities

- Camera settings
- Tripod setup, lighting, scale, compass or directional arrow
- Friction ridge
- Footwear
- Tire tracks

Assignment Options

The trainee will record all required notes for each assignment on the appropriate note pages, and a copy will be kept in the training binder.

- A minimum of ten latent/patent friction ridge impressions should be placed on various items and locations. These should be consistent with locations commonly found at crime scenes.
 - The following criteria for the impressions should be used:
 - At least two locations on a textured surface, such as a wooden door or wall
 - At least two of the locations on a vertical surface
 - At least one print placed on a reflective surface, such as a mirror
 - At least one print placed on a curved surface, such as a **doorknob**, bottle, etc.
 - At least one print in plastic (made in a soft surface such as wax or putty)
 - At least two of the prints should be photographed outside at night or in a dark room
 - The above criteria can be combined (i.e. a print on a mirror on the wall will satisfy the reflective and vertical surface requirements).
- The trainee should photograph a minimum of four, 3-dimensional footwear impressions. These may be in soil, sand, flour, mud, etc.
- The trainee should photograph at least one 2-dimensional footwear impression.
- The trainee should photograph a tire impression in dirt, soil, or mud, that is at least 3 feet in length.

Criteria for Competency Testing

The trainee will be evaluated on the following criteria:

- Ability to properly photograph friction ridge detail on a variety of surfaces, with images that are in focus and correctly exposed
- Ability to photograph 2-dimensional footwear impressions on a vertical surface
- Ability to photograph 3-dimensional footwear impressions on a horizontal surface



- Ability to photograph a 3-dimensional tire track

Final competency for release from this portion of the training program will be determined based on the trainee’s performance on assignments and the cumulative performance in comparison quality photography at crime scenes over the course of the training period.

Observation of Trainee During Supervised Casework Phase

The trainee will photograph impressions at crime scenes when required. This will be observed by the trainer, and all photographs will be evaluated prior to leaving the scene.

14.0 Comparison Photography						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Camera settings						
Tripod setup						
Friction ridge						
Footwear						
Tire tracks						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Photograph ten friction ridge impressions						
Photograph a minimum of four, three-dimensional footwear impressions						
Photograph a minimum of one, two-dimensional footwear impression						
Photograph a tire track impression at least 3 feet in length						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



15.0 Impression Recovery

Objective

The objective of this module is to familiarize the trainee with the proper procedures for the documentation and collection of footwear and tire impressions for future analysis. The trainee will learn how to properly recover these impressions.

Reading

- CSU SOP Sections _____
- *Practical Crime Scene Processing and Investigation, 2nd Edition*, Gardner 2012. Pages 281-290, 294-297.

Skills and Abilities

- Hard casting techniques
 - Dental stone
 - Casting in mud and water
- Electrostatic **Dust Print** Lifter (EDPL)
 - Use
 - Photography of mylar lifts
- Rubber-gelatin lifters (gel lifts)
- Flexible casting material (**AccuTrans**[®])

Assignment Options

The trainee will record all required notes for each assignment and store the notes in his/her training binder or scan them into his/her electronic training record.

- The trainer will create a footwear impression using dust, flour, or other similar substance on a vertical surface and one on a horizontal surface. The trainee will locate and photograph the impression, then use the EDPL to recover each impression. The trainee will then photograph the recovered impressions.
- The trainee will be given at least one shoe impression in dust or very light amount of dirt. The trainee will correctly photograph this impression and lift it with a gelatin lifter.
- The trainee will be given at least three, 3-dimensional **footwear** impressions in dirt/sand, etc. The trainee will properly photograph all three impressions and cast one.
- The trainer will create at least one 3-dimensional fingerprint in a soft surface, such as putty, clay or wax. The trainee will cast the plastic print using flexible casting material.

Criteria for Competency Testing

The trainee will be evaluated on the following criteria:

- Ability to locate and identify impression evidence
- Ability to recover impression evidence utilizing the best recovery method

Final competency for release from this portion of the training program will be determined based on the trainee's performance on the assignments and any cumulative observed performance on actual crime scenes.



Observation of Trainee During Supervised Casework Phase

The trainee will process impression evidence at crime scenes as required. This will be observed by the trainer and all resulting photographs and casts will be evaluated prior to leaving the scene.

15.0 Impression Recovery						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Practical Crime Scene Processing, pgs. 281-290; 294-297						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Hard casting						
Electrostatic Dust Print Lifter (EDPL)						
Gel Lifts						
Flexible casting						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Use EDPL to recover a footwear impression						
Use a gel lift to recover a footwear impression						
Hard cast a 3-D impression						
Flexible cast a plastic print						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Photograph at least three, 3-dimensional footwear impressions						



16.0 **Bluestar®** and Leuco-Crystal Violet (LCV)

Objective

The objective of this module is to instruct the trainee in the use of **Bluestar®** and LCV to locate and enhance blood.

Reading

- Crime Scene Unit SOP Sections _____

Skills and Abilities

- Use of **Bluestar®** to search for latent bloodstains
- Use of Leuco-Crystal Violet
- Positive and negative controls
- Required information in the notes

Assignment Options

The trainee will record all required notes for each assignment on the appropriate note pages and a copy will be kept in the training binder.

- Process an item stained with blood using Leuco-Crystal Violet. The results will be photographed using comparison quality photography procedures.
- Apply **Bluestar®** to a blood-stained surface and photograph the resulting luminescence.

Criteria for Competency Testing

Throughout this portion of the training, the trainee will be evaluated based on the following criteria:

- Ability to properly process items using blood reagents
- Ability to properly capture comparison quality images of items processed with LCV
- Ability to properly photograph the luminescent reaction of **BlueStar®**

Final competency for release from this portion of the training program will be determined based on the trainee's performance on assignments and any cumulative observed performance on actual crime scenes over the course of the training period.

Observation of Trainee During Supervised Casework Phase

The trainee will process actual casework using blood reagents whenever the opportunity arises. The trainer will ensure control tests are conducted and results are interpreted properly.



16.0 Bluestar® and Leuco-Crystal Violet (LCV)						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Use of Bluestar®						
Use of Leuco-crystal Violet						
Positive and negative controls						
Required information in notes						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Process item with Leuco-crystal Violet and take comparison quality photographs						
Process item with Bluestar® and photograph the resulting luminescence						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



17.0 Alternate Light Source (ALS)

Objective

The objective of this module is to familiarize the trainee with the CSU's Alternate Light Sources.

Reading

- Crime Scene Unit SOP Sections _____

Skills and Abilities

- Use of the ALS to search for potential body fluids
- Proper use of controls
- Changing wavelengths
- Use of correct color of goggles with selected wavelengths
- Use of camera barrier filter
- ALS safety

Assignment Options

The trainee will record all required notes for each assignment on the appropriate note pages, and a copy will be kept in the training binder.

- Use the ALS to search for areas of fluorescence on at least three items of varying colors and background patterns. These items are prepared/selected by the trainer.
- Photograph the areas of fluorescence using the correct barrier filter and camera settings

Criteria for Competency Testing

Final competency for release from this portion of the training program will be determined based on the trainee's performance on assignments and any cumulative observed performance on actual crime scenes and/or evidence items over the course of the training period.

Observation of Trainee During Supervised Casework Phase

The trainee will utilize the ALS on actual crime scenes or evidence whenever the opportunity arises. The trainer will ensure the performance check is completed, and the results are properly interpreted.



17.0 Alternative Light Source (ALS)						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Search for body fluids						
Use of controls						
Change wavelengths						
Use of goggles and camera filter						
Safety						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Search for areas of fluorescence on at least three items with varying colors and patterns						
Photograph areas of fluorescence with correct barrier filter and camera settings						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



18.0 Officer Involved Shootings

Objectives

The objective of this module is to familiarize the trainee with the procedures for this type of scene response.

Reading

- Crime Scene Unit SOP Sections _____

Skills and Abilities

- Documenting the officer's appearance
- Photographing the officer
- Define charting
- Charting the officer's weapon
- Charting any backup weapons

Assignments

- Photograph another CSU employee acting as the "officer" who has a minor injury.
- Chart a weapon and at least one spare magazine.

Criteria for Competency Testing

Final competency for release from this portion of the training program will be determined based on the trainee's performance on the assignments and the cumulative performance in photography of subjects, firearms handling, and any officer involved shooting scenes during the training period.

Observation of Trainee During Supervised Casework Phase

If the opportunity presents itself, the trainee will first observe the trainer or another CSI document an officer and at least one weapon at an officer involved shooting scene. The trainee may participate in the process at additional scenes. All photos and documentation will be reviewed by the trainer prior to leaving the scene.



18.0 Officer Involved Shootings						
Reading:		Date Read	Trainer initials		Trainee initials	
CSU SOP Section(s)						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Documenting & photographing officer						
Charting weapons & define charting						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Photograph "officer" with mock injury						
Chart a weapon and at least one spare magazine						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials



19.0 Courtroom Testimony

Objective

To prepare the trainee for courtroom testimony

Reading

- Applicable sections of the HFSC Quality Manual
- CSU Administrative Guidelines Manual, Section 6
- Texas Forensic Science Commission Licensing Exam Reading Material, Domains II and IV

Skills and Abilities

- Knowledge of courtroom demeanor
 - Grooming/dress
 - Tone of voice
 - Use of jargon
 - Demeanor
 - Treating prosecution and defense the same
- Knowledge of courtroom procedures
 - Subpoena notification
 - Voir dire
 - Direct examination
 - Cross examination
 - Addressing the judge
- Knowledge of pretrial conference preparation
 - Obtaining case record and review of the case record
 - Curriculum vitae (CV) vs. Statement of Qualifications (SOQ)
 - Meeting with prosecutor and defense
 - Limitations of expert testimony
- Testimony monitoring/Transcript review project
- Qualtrax workflow

Assignments

- The trainee will prepare a Curriculum vitae (CV) and Statement of Qualifications (SOQ)
- The trainee will answer questions about HFSC in a non-mock court setting
- The trainee will view the HFSC Quality video on testimony



Criteria for Competency Testing

The trainee will satisfactorily answer questions about HFSC, ethics, general forensic science knowledge and technical questions in a mock court setting.

Final Competency Criteria

The trainee will be evaluated based on the following criteria:

- Professional demeanor
- Effective description of qualifications
- Accuracy and truthfulness
- Testifying within the limits of her/her expertise and role
- Unbiased manner
- Ability to speak clearly, concisely, and with appropriate volume
- Appropriate eye contact with the jury

Final competency for release from this portion of the training program will be determined based on the trainee's performance in mock court. Although courtroom testimony training and mock court are required components of the training program, CSIs will report to court if/when subpoenaed or requested by attorneys even if this portion of training has not been completed. Please notify the Administrative Supervisor as soon as possible if this occurs.



19.0 Courtroom Testimony						
Reading:		Date Read	Trainer initials		Trainee initials	
Applicable HFSC Quality Manual Section(s)						
CSU Administrative Guidelines, Section 6						
TFSC Readings, Domains II and IV						
Skills and Abilities:	Date Discussed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Courtroom demeanor						
Courtroom procedures						
Pre-trial preparation						
Testimony monitoring / Transcript review project						
Qualtrax Workflow						
Assignments Options:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
Prepare a CV and SOQ						
Answer questions about HFSC in a non-mock court setting						
Additional Assignments:	Date Observed	Trainer Initials	Trainee Initials	Date Performed	Trainer Initials	Trainee Initials
HFSC Quality Video						



20.0 Final Evaluation for Release to Independent Casework

Objective

To evaluate the trainee's ability to act as an independent CSI who can manage, process and investigate crime scenes.

Skills and Abilities

- Appropriately process the scene and collect evidence in accordance with CSU SOP and HFSC Quality Manual
- Effectively communicate with officers and gather preliminary information
- Delegate tasks effectively, give clear instructions and make independent decisions
- Show good time management skills, manage scene interruptions and request additional resources if needed

Final Evaluation Criteria

Final competency for release from the training program will be determined based on **two parts**: the trainee's performance on the evaluation scenes, and **a written exam covering the** criteria outlined in this manual. The trainee will act as an independent CSI on a minimum of one crime scene and one vehicle at the VEB. The trainee will be evaluated by the Administrative Supervisor, or their designee, on the skills and abilities listed above. **The trainee must complete and pass a written exam that encompasses the topics covered in the training manual.**