
Training Procedure for Chemistry Technician III

- 1.0 Purpose** – The purpose of this procedure is to provide a training program for Chemistry Technician IIIs in the Physical Evidence Section of the North Carolina State Crime Laboratory. This program shall provide individuals with the theoretical background and the working knowledge to conduct independent instrument calibrations, handle evidence, perform safety inspections, process stop work cases and testify in court. The practical/laboratory exercises are intended to give the trainee experience performing job functions and to demonstrate ability to perform those functions independently.
- 2.0 Scope** - This procedure applies to technician trainees in the Physical Evidence Section of the State Crime Laboratory. The training outline shall be followed by all technician trainees, regardless of experience level. Blocks may be completed independently of each other and the technician may be authorized to perform portions according to the Procedure for Personnel Training. Completion shall be documented and approved on the Training Log.
- 3.0 Objectives:** Upon completion of the training program, the technician shall:
- 3.1** Know and understand the Laboratory and Section policies and procedures governing evidence handling, note taking, and report writing.
 - 3.2** Be able to receive, properly identify and transfer evidence, remediate seals and inventory the section's vaults.
 - 3.3** Be able to process stop work cases.
 - 3.4** Be able to calibrate and check the calibration and/or performance of the following instruments and items of laboratory equipment:
 - 3.4.1** Firearms Unit: Comparison microscopes, top loading balances, calipers, micrometers, DMD-48, trigger pull weights, measuring tapes
 - 3.4.2** Trace Unit: FTIR, GC-FID, and GC-MS
 - 3.5** Be able to perform section safety inspections.
 - 3.6** Be able to testify in court.
- 4.0 Evidence Handling**
- 4.1** Required Reading
 - State Crime Laboratory Evidence Guide
 - Laboratory Procedure for Evidence Management
 - Laboratory Procedure for the Use of FA
 - 4.2** **Tasks:** The training officer shall demonstrate the following:
 - 4.2.1** **Receiving Evidence**
 - 4.2.1.1** Evidence shall be received from the Evidence Control Unit. The trainee shall demonstrate the ability to retrieve mock evidence from the Evidence Control Evidence Retention Vault in order to prepare cases

for transfer to analysts and/or general storage according to the State Crime Laboratory Procedure for Evidence Management.

4.2.1.1.1 The trainee shall ensure that evidence packaging is in a properly sealed condition. If the packaging seal does not meet policy, the technician shall remediate the seal.

4.2.1.1.2 The trainee shall demonstrate how to mark received evidence.

4.2.1.1.3 The trainee shall maintain custody of received evidence until it is transferred to an analyst or general storage.

4.2.2 Transfer Evidence

4.2.2.1 The trainee shall demonstrate the ability to transfer properly sealed and labeled evidence to the appropriate analyst or general storage according to the State Crime Laboratory Procedure for Evidence Management.

4.2.3 Vault Inventory

4.2.3.1 The training officer shall demonstrate the procedure for reconciling the section evidence vaults.

4.3 Evaluation

4.3.1 Given four pieces of mock evidence, ensure that they are properly sealed and marked.

4.3.2 Given four mock cases, correctly transfer them from the evidence control vault to the section vault.

4.3.3 Independently reconcile two or more shelves in the section evidence vaults.

4.3.4 Written exam.

5.0 Stop Work Cases

5.1 Required Reading

- Lab-wide Procedure for Stop Work Orders
- Laboratory Procedure for the Use of FA
- Laboratory FA Training PowerPoint Presentation

5.2 Tasks

5.2.1 Learn use of the computer software for Laboratory note taking and report writing (Forensic Advantage) with the Physical Evidence Section's FA Administrators.

5.2.2 The training officer shall demonstrate the proper completion of a stop work case according to the Procedure for Stop Work Orders.

5.3 Evaluation

5.3.1 The trainee shall successfully process two stop work cases.

6.0 Equipment Calibration and Maintenance

6.1 Required Reading

- Firearms Unit Technical Procedure for Instrument Calibration and Maintenance
- Trace Unit Technical Procedure for Infrared Spectroscopy
- Trace Unit Technical Procedure for Gas Chromatography (GC-FID)
- Trace Unit Technical Procedure for Gas Chromatography-Mass Spectrometry (GC-MS)
- Laboratory Procedure for Equipment Calibration and Maintenance

6.2 Tasks: The training officer shall demonstrate the following:

6.2.1 Firearms Unit

6.2.1.1 Comparison Microscopes

6.2.1.1.1 The trainee shall demonstrate the maintenance and quality control checks on the comparison microscopes according to the Firearms Unit Technical Procedure for Instrument Calibration and Maintenance.

6.2.1.1.2 All quality control checks shall be documented in FA Resource Manager and in the appropriate logbook.

6.2.1.2 Balances

6.2.1.2.1 The trainee shall demonstrate the maintenance and quality control checks on the balances according to the Firearms Unit Technical Procedure for Instrument Calibration and Maintenance.

6.2.1.2.2 All quality control checks shall be documented in FA Resource Manager and in the appropriate logbook.

6.2.1.3 Micrometers

6.2.1.3.1 The trainee shall demonstrate the maintenance and quality control checks on the calipers according to the Firearms Unit Technical Procedure for Instrument Calibration and Maintenance.

6.2.1.3.2 All quality control checks shall be documented in FA Resource Manager and in the appropriate logbook.

6.2.1.4 Calipers

6.2.1.4.1 The trainee shall demonstrate the maintenance and quality control checks on the calipers according to the Firearms Unit

Technical Procedure for Instrument Calibration and Maintenance.

6.2.1.4.2 All quality control checks shall be documented in FA Resource Manager and in the appropriate logbook.

6.2.1.5 DMD-48

6.2.1.5.1 The trainee shall demonstrate the maintenance and quality control checks on the DMD-48 according to the Firearms Unit Technical Procedure for Instrument Calibration and Maintenance.

6.2.1.5.2 All quality control checks shall be documented in FA Resource Manager and in the appropriate logbook.

6.2.1.6 Measuring Tapes

6.2.1.6.1 The trainee shall demonstrate the annual quality control check on the measuring tapes according to the Firearms Unit Technical Procedure for Instrument Calibration and Maintenance.

6.2.1.6.2 All quality control checks shall be documented in FA Resource Manager and in the appropriate logbook.

6.2.1.7 Trigger Pull Weights

6.2.1.7.1 The trainee shall demonstrate the annual quality control check on the trigger pull weights according to the Firearms Unit Technical Procedure for Instrument Calibration and Maintenance.

6.2.1.7.2 All quality control checks shall be documented in FA Resource Manager and in the appropriate logbook.

6.2.2 Trace Unit

6.2.2.1 FTIR

6.2.2.1.1 The trainee shall demonstrate the maintenance and quality control checks on the FTIR according to the Trace Unit Technical Procedure for Infrared Spectroscopy.

6.2.2.1.2 All quality control checks shall be documented in the appropriate logbook.

6.2.2.2 GC/FID and GC/MS

6.2.2.2.1 The trainee shall demonstrate the maintenance and quality control checks on the GC-FID and GC-MS according to the Trace Unit Technical Procedure for Gas Chromatography

(GC-FID) and Technical Procedure for Gas
Chromatography-Mass Spectrometry (GC-MS).

6.2.2.2.2 All quality control checks shall be documented in the appropriate logbook.

6.3 Evaluation

6.3.1 The trainee shall successfully demonstrate the calibration, calibration check and/or performance check of the instruments or equipment listed above.

7.0 Safety Inspections

7.1 Required Reading

- NCSCL Safety Manual

7.2 Tasks

7.2.1 The section safety officers shall demonstrate the required section safety checks.

7.3 Evaluation

7.3.1 The trainee shall successfully perform the required monthly safety inspections.

8.0 Preparation for Court

8.1 Required Reading

- CVs or Statements of Qualifications of other Forensic Scientists.
- Ron Smith and Associates, Inc. "Courtroom Testimony Techniques: Success Instead of Survival." Collinsville, Mississippi.

8.2 Tasks

8.2.1 Prepare or update a CV or Statement of Qualifications.

8.2.2 Review courtroom testimony with the Forensic Scientist Manager or designee and the ECU Training Coordinator.

8.2.3 Prepare a set of qualifying questions.

8.2.4 Observe pretrial conferences, courtroom testimony and/or moot courts if available.

8.3 Evaluation

8.3.1 Successfully complete a moot court.

9.0 Records

- Training file
- Training checklist

10.0 Attachments – N/A

Revision History		
Effective Date	Version Number	Reason
04/06/2016	1	Original Document