Training Procedure for Policy Review, Note Taking, Report Writing, and Courtroom Testimony

1.0 Purpose – Drug Chemistry casework consists of analyzing evidence, note taking, report writing, and courtroom testimony. All casework must conform to Laboratory policies and procedures. This procedure will focus on the policies and procedures governing casework. As a final test, each Forensic Scientist trainee analyzes a series of mock case samples and testifies to the results in one or more of the cases in a moot court.

2.0 Scope - This procedure applies to trainees in Drug Chemistry at the Raleigh, Triad and Western locations of the State Crime Laboratory.

3.0 Procedure

3.1 Objectives

3.1.1 Know and understand the Laboratory policies and procedures governing evidence handling, note taking, and report writing.

3.1.2 Be able to document casework properly.

3.1.3 Review the current version of the Drug Chemistry Section Abbreviation List.

3.1.4 Be able to explain scientific techniques in non-technical terms and technical terms.

3.1.5 Know and understand how to use the computer software (FA) used for laboratory note taking and report writing.

3.1.6 Successfully complete a written exam and correctly identify at least ten unknowns.

3.1.7 Successfully complete a competency exam comprised of one or more mock cases. Evidence handling, chain of custody and all case record information will be documented in FA as if these case(s) were actual submissions.

3.1.8 Successfully testify to the analysis of one or more of the competency exam mock cases chosen by the Drug Chemistry Training Coordinator in a moot court. A State Crime Laboratory Moot Court Evaluation Rating Sheet shall be used to evaluate testimony (see State Crime Laboratory Procedure for Personnel Training).

3.2 Study Questions

3.2.1 What is a proper seal?

3.2.2 How is an improper seal remediated?

3.2.3 True or False: For evidence received by personal delivery, it is the responsibility of the Laboratory employee receiving evidence directly to ensure the evidence packages are properly sealed and identified.

3.2.4 What must be done to packages upon receipt of evidence and what must be done in order

to return evidence?

3.2.5 When and how is evidence secured?

3.2.6 How are casework controlled substance standards obtained?

3.2.7 What must be included in the FA case record of each case analyzed?

3.2.8 How are corrections or changes on FA case notes or any other document in the case file made?

3.2.9 What are the criteria for reporting and noting the weights of controlled substances?

3.2.10 If there is a discrepancy with the type of evidence received (such as number of tablets on request vs. number of tablets received), what should a Forensic Scientist do? If there is a discrepancy with the packaging integrity, seals, etc., what should a Forensic Scientist do?

3.2.11 What is included in FA resource manager entries for prepared reagents, and on the prepared reagent bottle?

3.2.12 What are the minimum criteria for identification of a controlled substance?

3.2.13 In a multi-item case, how does one determine the number of items to be analyzed?

3.2.14 What special steps should be taken for a biohazard type of case? What safety precautions should be taken for suspected fentanyl and fentanyl analog cases?

3.2.15 True or False: It is the responsibility of all Laboratory personnel to be aware of possible sources of contamination between items in the same case, between items from different cases, and to prevent evidence from deleterious change.

3.2.16 True or False: It is unadvisable to have more than one case open at a time. Each individual case should be completed before opening another case.

3.2.17 Review the acceptable abbreviations used for note taking by the Drug Chemistry Section.

3.3 Practical/Laboratory Exercises

3.3.1 Read all reference materials listed in this section.

3.3.2 Prepare a Statement of Qualifications, also known as a Curriculum Vitae (CV).

3.3.3 Be able to demonstrate proficiency in the use of the Forensic Advantage (FA) computer software used for Laboratory note taking and report writing. A Drug Chemistry Section FA Administrator is available to assist you with this task.

3.3.4 Observe the Drug Chemistry Training Coordinator and other Forensic Scientists working at least 10 different drug cases. Independently practice data entry and report writing as you would if you were analyzing cases.

3.3.5 Review courtroom testimony with the Drug Chemistry Training Coordinator and/or senior Forensic Scientists. Accompany them to court if possible.

3.3.6 Using all the techniques and principles presented in training, complete the analysis of at least ten unknowns and document them as if they were actual case work.

3.4 **Moot Court -** Prepare answers to the following questions in preparation for the moot court based on the competency exam unknowns. The answers to this set of questions will NOT be required to be turned in for the training file.)

3.4.1 General Qualifications:

3.4.1.1 Please state your full name for the record.

3.4.1.2 How are you employed?

3.4.1.3 How long have you been employed with the North Carolina State Crime Laboratory?

3.4.1.4 What is your educational background?

3.4.1.5 What training and experience do you have in the analysis of controlled substances?

3.4.1.6 What are your duties as a Forensic Scientist in Drug Chemistry?

3.4.1.7 How many times have you been qualified as an expert in forensic chemistry?

3.4.2 Evidence Identification/Analysis – (Example with State's Exhibit #1):

3.4.2.1 Can you tell the jury what State's Exhibit # 1 is and how you recognize it?

3.4.2.2 Is State's Exhibit # 1 in substantially the same condition as when you last saw it?

3.4.2.3 When did you receive State's Exhibit #1?

3.4.2.4 From whom did you receive it?

3.4.2.5 Can you explain to the jury the role of the Evidence Control Unit at the North Carolina State Crime Laboratory?

3.4.2.6 Did there come a time when you opened State's Exhibit # 1 to examine the contents?

3.4.2.7 When was that?

3.4.2.8 What analysis did you perform on the contents of States Exhibit # 1?

3.4.2.9 In your opinion, what were the contents of State's Exhibit # 1?

3.4.2.10 What did you do with the contents of State's Exhibit # 1 when you completed your analysis?

3.4.3 General Questions

3.4.3.1 Define forensic chemistry.

3.4.3.2 What is a controlled substance?

3.4.3.3 What are the duties of a Forensic Chemist/Forensic Scientist/Forensic Drug Chemist?

3.4.3.4 What skills do you possess that relate to the duties of a Forensic Scientist?

3.4.3.5 What qualifies you as an expert in Forensic Drug Chemistry?

3.4.3.6 Outline the training you received at the State Crime Laboratory.

3.4.3.7 How is evidence received at the State Crime Laboratory?

3.4.3.8 Does the Lab have policies and procedures governing the handling of evidence?

3.4.3.9 What is the policy if you find a discrepancy?

3.4.3.10 Do you have any knowledge of evidence prior to receipt?

3.4.3.11 Could it have been tampered with before you received it?

3.4.3.12 Have you ever made a mistake?

3.4.3.13 What would you do if it came to your attention that there was an error in your analysis?

3.4.3.14 What security measures are in place at the State Crime Laboratory?

3.4.3.15 What is the margin of error in a Drug Chemistry analysis?

3.4.3.16 What is the margin of error of an electronic balance?

3.4.3.17 What are the criteria for the identification of a controlled substance?

3.4.3.18 What is the difference between a screening test and confirmatory test?

3.4.3.19 What precautions are taken to guard against contamination?

3.4.3.20 What are a technical and an administrative review?

3.4.3.21 Be able to explain:

- Calibrations
- Instrument checks
- Origins of reference standards
- Blanks/QC procedures
- Know how to convert grams to ounces
- Certification and accreditation

3.4.3.22 Be able to generally explain each technique covered in the training program, for example:

- What causes a color test to change color?
- What causes the peaks in IR and UV spectra?
- Be able to explain to a jury how an IR works.
- What happens when you extract a drug?
- What causes drugs to separate in an extraction?
- What is the difference between a stereomicroscope and polarizing microscope?
- Be able to explain to a jury how a GC-MS works.
- Be able to explain the markings on data (i.e., abundance, m/e, wave number)

3.4.3.23 Know the origins of drugs commonly analyzed, for example:

- Where do LSD, MDMA, and DMT originate?
- How is Cocaine made?
- What is the difference in Cocaine Hydrochloride and Cocaine Base, or "crack"?
- How is methamphetamine made?

4.0 References

Official NCSCL Policy and Procedure for Drug Chemistry (both Technical, Training, and Administrative Procedures)

Official NCSCL Policy and Procedure Lab-wide (including but not limited to Use of FA)

Drug Chemistry Section Abbreviation List

5.0 Records

- Drug Chemistry Section - Training Checklist
- Section Completion Summary
- Competency Exam Mock Cases in FA
- Statement of Qualifications

6.0 Attachments – N/A

Revision History		
Effective Date	Version Number	Reason
09/17/2012	1	Original Document
12/06/2013	2	Added issuing authority to header
10/19/2015	3	**Header** – Revised issuing authority **3.1.3** – Added objective reference Section Abbreviation List **3.1.6, 3.3.6** – Added "at least" **3.2** – Revise study questions **References** – Revised references
08/17/2018	4	**3.2.1 –** removed external and internal (former) 3.2.4, 3.2.6, 3.2.7, 3.2.8, 3.2.14 – Removed **3.2.11 –** changed paper log to FA entry **3.2.14 –** added fentanyl and fentanyl analogs **3.4.3.1, 3.4.3.3 –** clarified **3.4.3.21 –** added certification and accreditation **3.4.3.23 –** added MDMA and DMT, production of meth