Trainee Name:

|  |  |  |
| --- | --- | --- |
| **Training Area** | Date Completed/Trainee’s Initials | Trainer’sInitials |
| **Safety** |  |  |
| Chemical Hazards/SDS Sheets |  |  |
| Blood borne Pathogen training |  |  |
| Read and understand the North Carolina State CrimeLaboratory Safety Manual |  |  |
| Read and understand the DOJ Safety Manual |  |  |
| **Ethics** |  |  |
| Lecture |  |  |
| Read and understand NCSCL Policy on Ethics and Conduct |  |  |
| Read and understand “Guiding Principles ofProfessional Responsibility for Forensic Science Providers and Forensic Personnel”, Ethics Policy Appendix A |  |  |
| Read and understand the American Board of Criminalistics(ABC) Rules of Professional Conduct |  |  |
| **Evidence Handling/Workflow** |  |  |
| Evidence Handling Lecture |  |  |
| Workflow Lecture |  |  |
| Read NCSCL Policy and Procedure for Evidence Submissions |  |  |
| Read and understand NCSCL Procedure for Evidence Management |  |  |
| Read and understand Forensic Biology Section Procedure forEvidence Handling |  |  |
| Read and understand Procedure for SAECK Workflow |  |  |
| Read and understand Procedure for Obtaining Evidentiary Standards |  |  |
| Demonstration of Identifying and Packaging Evidence |  |  |
| Supervised Identification and Packaging of Evidence |  |  |
| Workflow Readings-Shaler, R. “Ch. 10: Modern Forensic Biology” Forensic Science Handbook, Vol. 1 p.526 – 531 -Cwiklik, C. “Ch. 1: Forensic Casework from Start to Finish” Forensic Science Handbook Vol. III -Criminalistics Ch. 3 - Criminalistics Ch. 10 - Criminalistics Ch. 11, p.281 – 289 -Fundamentals of Forensic Science Ch. 3 |  |  |
| Examine 5 workflow case scenarios (minimum) |  |  |
| **Aseptic Technique and Contamination Control** |  |  |
| Read and understand Aseptic Technique and ContaminationControl procedure |  |  |
| Aseptic technique/cleaning of equipment |  |  |
| Aseptic technique for handling evidence samples |  |  |
| Successfully complete Quiz on Aseptic, QC and Workflow |  |  |
| **Screening and Evidence Collection** |  |  |
|  Demonstration on how to collect evidence |  |  |
|  Properly collect evidence from 15 samples |  |  |
|  Read and understand the Procedure for ALS  |  |  |
|  Demonstration use of the ALS |  |  |
|  Identify areas that should be tested further using ALS |  |  |
| **Quality Assurance/Quality Control** |  |  |
| Read and understand Laboratory Quality Manual |  |  |
| Lecture on SWGDAM, Audits |  |  |
| Lecture on Forensic Biology Quality Control |  |  |
| Equipment Calibrations:- Read and understand Forensic Biology Section Proceduresfor Calibration and Equipment Maintenance- Read and understand Forensic Biology Section Procedures for Quality Control and Reagent Preparation |  |  |
| Assigned Readings:- FBI Quality Assurance Standards for DNA TestingLaboratories- SWGDAM Validation Guidelines for DNA AnalysisMethods |  |  |
| Understand how to prepare and QC check reagents |  |  |

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| **Blood Analysis** |
|  **Historical Body Fluid Testing and Bloodstain Pattern Awareness** |  |  |
|  Lecture  |  |  |
| **Historical Blood Analysis/Blood Pattern Awareness Readings** |  |  |
| Beaver, H.G. “Presumptive Testing for the Presence of Blood: Limiting the “Glow” of Misleading Expert Testimony.” Trial Briefs. (Spring 1996): 30-32. |  |  |
| Hemochromogen Crystal Test |  |  |
| Phadabas Amylase Test, Pharmacia, Uppsalla Sweeden 1994 |  |  |
| Lee, H. “Identification and Grouping of Bloodstains.” Forensic Science Handbook. Vol. 1, Prentice Hall, Englewood Cliffs, N.J. (1982): 283-297. |  |  |
| Gaensslen, Ren. Sourcebook in Forensic Serology, Immunology, and Biochemistry. 2nd ed. National Institutes of Justice (1989): 112-114. |  |  |
| Laux, D. L. “Effects of Luminol on the Subsequent Analysis of Bloodstains.” Journal of Forensic Sciences 36: 1512-1520 (1991) |  |  |
| Hochmeister, M.D., et al. “Validation Studies of an Immunochromatographic 1-step Test for the Forensic Identification of Human Blood.” Journal of Forensic Sciences 1999 (597-602) |  |  |
| Rowley, B.O. “Commentary of Hochmeister” Journal of Forensic Sciences 1999 (1323) |  |  |
| Lytle, L.T. and D.G. Hedgecock. “Chemiluminescence in the Visualization of Forensic Bloodstains.” Journal of Forensic Sciences. 23: 550-562 (1978).  |  |  |
| Criminalistics Ch. 12 |  |  |
| Fundamentals of Forensic Science Ch. 10 p. 244 - 252 |  |  |
| Successfully pass a quiz on Historical body Fluid Testing and Bloodstain Pattern Awareness |  |  |
| **Blood Identification** |  |  |
| Lecture |  |  |
|  Blood Identification Readings |  |  |
| Blake, E.T. and D.J. Dillon. “Microorganisms and the Presumptive Tests for Blood.” Journal of Police Science and Administration. 1: 395-400 (1973) |  |  |
| Cox, M. “A Study of Sensitivity and Specificity of Four Presumptive Tests in Blood.” JFSCA 36: 1503-1511 (1991) |  |  |
| Cox, M. “Effect of Fabric Washing on the Presumptive Identification of Bloodstains.” JFSCA 35: 1335-1341 (1990)    -Edelman, G.J., et al. “Infrared Imaging of the Crime Scene: Possibilities and Pitfalls”. Journal of Forensic Sciences, Sept. 2013, Vol. 58, No 5 -Forensic Serology,       Ch. 12, p. 346-363 |  |  |
| Edelman, G.J., et al. “Infrared Imaging of the Crime Scene: Possibilities and Pitfalls”. Journal of Forensic Sciences, Sept. 2013, Vol. 58, No 5 -Forensic Serology,       Ch. 12, p. 346-363 |  |  |
| Gaensslen, R.E. Sourcebook in Forensic Serology, Immunology, and Biochemistry. 2nd ed. National Institutes of Justice (1989): 103-105 |  |  |
| Higaki, R.S. and W.M.S. Philp. “A Study of the Sensitivity, Stability, and Specificity of Phenolphthalein as an Indicator Test for Blood.” Canadian Society of Forensic Sciences 9: 97-102 (1976)  |  |  |
| Peterson, D., et al. “Phenolphthalein False-Positive Reactions from Legume Root Nodules” Journal of Forensic Sciences, Mar. 2014, Vol 59, No 2 |  |  |
| Saah, A.J. & D.R. Hoover, “Sensitivity & Specificity Reconsidered: The meaning of these terms in analytical & diagnostic settings” Ann Internal Medicine, 1997        Jan 1; 126(1), p. 91-94 |  |  |
| Schweers, B.A. Developmental Validation of a Novel Lateral Flow Strip Test for Rapid Identification of Human Blood. Independent Forensics (2007) |  |  |
| Tobe, S.S., et al. “Evaluation of Six Presumptive Tests for Blood, Their Specificity, Sensitivity, and Effect on High Molecular Weight DNA” Journal of Forensic     Sciences, Jan. 2007, Vol 51, No 1 |  |  |
| Webb, J. L. “A Comparison of the Presumptive Luminol Test for Blood with Four Non-chemiluminescent Forensic Techniques.” Luminescence 21: 214-220       (2006).  |  |  |
|  Kastle-Meyer Test |  |  |
|  Read and understand procedure |  |  |
|  Demonstration of test |  |  |
|  Practical exercises from worksheet 1 |  |  |
| Practical exercises from worksheet 2 |  |  |
|  RSID Blood Test |  |  |
|  Read and understand procedure |  |  |
|  Demonstration of test |  |  |
|  Examine 10 samples |  |  |
| Successfully pass a quiz on Blood Identification |  |  |
|  |  |  |
| **Semen Analysis** |
| **Semen and Sperm Identification** |  |  |
| Lecture |  |  |
| Read and understand Procedure for Semen and Sperm analysis |  |  |
|  Semen Analysis Readings |  |  |
| Jones, Edwin L. “Chapter 8 The Identification of Semen and Other Body Fluids” Forensic Science Handbook Vol. III: pg. 329 – 369 |  |  |
| Adams, E.G., et al. “Phosphatases in Body Fluids: The Differentiation of Semen and Vaginal Secretion.” Forensic Science. 3; 1975: 57-62 (1975).  |  |  |
| Baechtel, Samuel F. “Immunological Methods for Seminal Fluid Identification” FBI Laboratory, Quantico, VA 1983. |  |  |
| Chang, T.S.K. “Seminal Cytology.” Proceedings of a Forensic Science Symposium on the Analysis of Sexual Assault Evidence. FBI Laboratory Division, Washington, D.C (1983). |  |  |
| Collins, Kim A. & Bennett, Allan T. “Persistence of Spermatozoa and Prostatic Acid Phosphatase in Speciments from Deceased Individuals During Varied Postmortem Intervals” he American Journal of Forensic Medication and Pathology, Vol. 22 (3), September 2001 pg. 228-232 |  |  |
| Davies, A., et al. “The Persistence of Seminal Constituents in the Human Vagina.” Forensic Science. 3: 45-55 (1975).  |  |  |
| Divall, G.B. “Identification and Persistence of Seminal Constituents in the Postcoital Vaginal Tract.” Proceedings of a Forensic Science Symposium on the Analysis of Sexual Assault Evidence. FBI Laboratory Division, Washington, D.C (1983). |  |  |
| Kafarowski, E. “The Retention and Transfer of Spermatozoa in Clothing by Machine Washing.” Can. Soc. Forens. Sci. J. 29: 7-11 (1996). |  |  |
| McCloskey, K.L., et al. “Prostatic Acid Phosphatase Activity in the Postcoital Vagina.” Journal of Forensic Science. 20: 630-6 (1975). |  |  |
| Old, J. “Developmental Validation Studies of RSID-Semen Lateral Flow Immunochromatographic Strip Test for the Forensic Detection of Seminal Fluid.” Independent Forensics, IL (2006). |  |  |
| Schiff, A.F. “Reliability of the Acid Phosphatase Test for the Identification of Seminal Fluid.” Journal of Forensic Science. 23: 833-44 (1978). |  |  |
| Ulutin, H.C. “Prostate Specific Antigen in the Female Body: It’s Role in Breast Cancer Prognosis” Radiation Medicine Vol. 18 (5), pg. 273-276 (2000 |  |  |
| Willott, G.M. and J.E. Allard. “Spermatozoa – Their Persistence after Sexual Intercourse.” Forensic Science International. 19:135-154 (1982) |  |  |
| Wilson, E.F. “Sperm’s Morphologic Survival after 16 Days in the Vagina of a Dead Body.” Journal of Forensic Science. 19:561-564 (1974) |  |  |
| Microscopy Readings |  |  |
| Gaensslen, R.E. Sourcebook in Forensic Serology, Immunology, and Biochemistry. 2nd ed. National Institutes of Justice. (1989): 150-152.  |  |  |
| Gaensslen, R.E., et al. “Staining and Extraction Techniques.” Proceedings of a Forensic Science Symposium on the Analysis of Sexual Assault Evidence. FBI, Wash. D.C. (1983): 135-144. |  |  |
| Olympus, BX41 System Microscope Instruction  |  |  |
| Abramowitz, M. Microscope Basics and Beyond Vol. 1 (2003) |  |  |
|  Acid Phosphatase Test |  |  |
|  Demonstration of test |  |  |
|  Practical exercises from Semen Worksheet |  |  |
| Microscopic Examination |  |  |
| Lecture |  |  |
| Read and understand procedure |  |  |
| Demonstration of staining procedure and microscope use |  |  |
| View various slides made from sample taken from the Semen Worksheet |  |  |
| Viewing of animal slides |  |  |
| Quantitation of >20 previously prepared slides |  |  |
|  RSID Semen Test |  |  |
|  Read and understand procedure |  |  |
|  Demonstration of test |  |  |
|  Examine samples from the Semen  Worksheet |  |  |
|  Successfully pass a quiz on Semen Identification |  |  |
|  Successfully pass a quiz on Microscopy |  |  |
| **Notes and Report Writing** |  |  |
| Understand how to use FA  |  |  |
| Demonstrate how to use serology workbook |  |  |
| Able to draft a satisfactory report from previously analyzed cases |  |  |
| **DNA Analysis Training** |
|  **Extraction** |  |  |
| Lecture |  |  |
| Read and understand procedure |  |  |
| Demonstration of EZ1 robotic extractions |  |  |
| Supervised EZ1 robotic extractions |  |  |
| Demonstration of Differential/QIAcube Extractions |  |  |
| Supervised Differential/QIAcube Extractions |  |  |
| Optional: Demonstration of Concentration of Extracted DNA |  |  |
| Optional: Demonstration of Bone or Teeth Extraction |  |  |
| Optional: Supervised Bone or Teeth Extractions |  |  |
| Assigned Readings:- Fundamentals of Forensic DNA Typing, Chapter 1, 2, 3, 4,5, 14- Advanced Topics in Forensic DNA Typing: Methodology, Chapter 1, 2, 10, 11- Kishore, R. et al. 2006. **Optimization of DNA Extraction from Low-Yield and Degraded Samples Using the BioRobot EZ1 and BioRobot M48**, J Forensic Sci, 51 (5).- EZ1 DNA Investigator Handbook- Qiagen EZ1 advanced XL User Manual- Qiagen EZ1 Internal Validations- QIAcube User Manual- QIAcube Internal Validations |  |  |
| Successfully complete Quiz on Extraction |  |  |
| **Quantitation** |  |  |
| Lecture |  |  |
| Read and Understand procedure |  |  |
| Demonstration of RT PCR Set-up Procedure (Manual) |  |  |
| Demonstration of RT-PCR Set-up Procedure (QIAgility) andInterpretation |  |  |
| Completion of manual setup of Quantifiler Trio standard curve |  |  |
| Supervised RT PCR Setup (Manual) and Interpretation |  |  |
| Supervised RT PCR Setup (QIAgility) and Interpretation |  |  |
| Assigned Readings:- Fundamentals of Forensic DNA Typing, Chapter 6- Advanced Topics in Forensic DNA Typing: Methodology, Chapter 3- Holt, A. et al. 2016. **Developmental validation of the Quantifiler HP and Trio Kits for human DNA quantitation in forensic samples.** Forensic Science International:Genetics, 21 (2016) 145-157.- Internal Validation of Quantifiler Trio DNA QuantificationKit |  |  |
| - QIAgility User Manual- QIAgility Internal Validation Study |  |  |
| Successfully complete Quiz on Quantitation |  |  |
| **STR/PCR Amplification** |  |  |
| Lecture |  |  |
| Read and Understand Procedure for PCR Amplification F6C |  |  |
| Demonstration of Amplification setup (Manual) |  |  |
| Demonstration of Amplification setup (QIAgility) |  |  |
| Supervised Amplification setup (Manual) |  |  |
| Supervised Amplification setup (QIAgility) |  |  |
| Assigned Readings:- Fundamentals of Forensic DNA Typing, Chapter 7, 8, 14,15, 16- Advanced Topics in Forensic DNA Typing: Methodology, Chapter 4, 5, 11, 12, 13, 14, 16- Ensenberger, M. et al. 2016. **Developmental Validation of the PowerPlex Fusion 6C System.** FSI: Genetics, 21 (134-144)- Fujii, K. et al. 2016. **D5S818 Typing Discrepancy Between PowerPlex Fusion and Other STR Kits Including GlobalFiler Caused by a One-base Deletion in****31 Nucleotides Upstream of the Repeat Region**. J.Forensic Sci, 61 (3).- Internal Validation of Promega Fusion 6C PCR Amplification Kit |  |  |
| Successfully complete Quiz on Amplification |  |  |
| **Electrophoresis** |  |  |
| Lecture |  |  |
| Read and understand procedure |  |  |
| Demonstration of 3500 series Plate-Setup (Manual) andelectrophoresis run |  |  |
| Demonstration of 3500 series Plate-Setup (QIAgility) |  |  |
| Supervised 3500 series Plate Set-Up (Manual) and electrophoresis run |  |  |
| Supervised 3500 series Plate Set-Up (QIAgility) |  |  |
| Assigned Readings:- Fundamentals of Forensic DNA Typing, Chapter 9, 10- Advanced Topics in Forensic DNA Typing: Methodology, Chapter 6- Advanced Topics in Forensic DNA Typing: Interpretation, Chapter 2, 8- “**Analytical Thresholds and Sensitivity: Establishing RFU Thresholds for Forensic DNA Analysis**”, JFS, January 2013, vol 58, no 1**Consideration for evaluating carryover on AB Capillary Electrophoresis Platforms in a HID laboratory**, AB Technical Note, June 2012- Bregu, J. et al. 2013**. Analytical Thresholds and Sensitivty: Establishing RFU Thresholds for Forensic DNA Analysis.** J Forensic Sci, 58 (1)- Gill, P. eta l. 2009. **The low-template-DNA (stochastic) threshold – its determination relative to risk analysis for national DNA databases.** FSI: Genetics, 3: 104-111.- Moretty, T.R. et al. 2001. **Validation of STR Typing by****Capillary**. J. Forensic Sci, 46 (3).- Moretty, T.R. et al. 2001. **Validation of Short Tandem Repeats (STRs) for Forensic Usage: Performance Testing of Fluorescent Multiplex STR Systems and Analysis of Authentic and Simulated Forensic Samples**. J. Forensic Sci, 46 (3).- Taylor, D. et al. 2016. **Validating multiplexes for use in conjunction with modern interpretation strategies.** Forensic Science International: Genetics, 20: 6-19.- 3500 Series Data Collection Software, User Bulletin.Applied Biosystems. |  |  |
| Successfully complete Quiz on Electrophoresis |  |  |
| **Interpretation and Statistics** |  |  |
| Lecture – Interpretation |  |  |
| Lecture – Mixture Interpretation, Genotyping |  |  |
| Hand Calculation – Mixture Interpretation |  |  |
| Lectures - STRmix |  |  |
| Lecture – LR Statistics |  |  |
| Hand Calculation – Statistics |  |  |
| Read and Understand Analysis and Interpretation F6CProcedure |  |  |
| Read and Understand Procedure for ArmedXpert |  |  |
| Demonstration of Genemapper ID-X Software |  |  |
| Supervised Application of Genemapper ID-X Software |  |  |
| Demonstration of Excel Tables using Genemapper ID-X |  |  |
| Supervised Application of Excel Tables using Genemapper ID-X |  |  |
| Demonstration of ArmedXpert Software |  |  |
| Supervised Application of ArmedXpert Software |  |  |
| Watch FTCoE webinar series on Probabilistic Genotyping |  |  |
| STRmix demo |  |  |
| Supervised application of STRmix Software |  |  |
| Successfully complete Quiz on Interpretation and Validation |  |  |
| Analysis and Interpretation of Samples provided by DNATechnical Leader |  |  |
| Assigned Readings: Interpretation- SWGDAM Interpretation Guidelines for Autosomal STRTyping (2017)- Fundamentals of Forensic DNA Typing, Chapter 10, 18- Advanced Topics in Forensic DNA Typing: Methodology, Chapter 17- Advanced Topics in Forensic DNA Typing: Interpretation, Chapters 1, 3, 4, 5, 6- Bright, et al. 2013. **Degradation of forensic DNA profiles.**Australian Journal of Forensic Sciences.- Balding, D. and J. Buckleton. 2009. **Interpreting low template DNA profiles**. FSI: Genetics, 4: 1-10.- “Analysis and Interpretation of mixed forensic stains usingDNA STR profiling”, FSI 1998; 55-70- “Obervation of tri-allelic patterns in autosomal STRs during routine casework”, FSI Genetics, 2009, 38-40- Roffey, P.E., et al. 2000. **A Rare Mutation in the Amelogenin Gene and Its Potential Investigative Ramifications.** J. Forensic Sci, 45 (5).- Shewale, J.G., et al. 2000. **Anomalous Amplification of** **the Amelogenin Locus Typed by the AmpFℓSTR® Profiler Plus® Amplification Kit.** Forensic Science Communications, 2 (4).- Rubocki, R.J., et al. **Natural DNA Mixtures Generated in****Fraternal Twins *in uter.*** J Forensic Sci, 46 (1): 120-125- Gill, P., et al. 2006. **DNA Commission of the International Society of Forensic Genetics: Recommendations on the interpretation of mixtures.** Forensic Science International, 160 (2006) 90-101.- Gill, P. et al. 2012. **DNA Commission of the International Society of Forensic Genetics: Recommendations on the evaluation of STR typing results that may include drop-out and/or drop-in using Probabilistic Methods.** Forensic Science International: Genetics 6 (2012) 679-688. |  |  |
| Assigned Readings – STRmix-STRmix v2.7 Operations manual-STRmix User and Implementation Guide-SWGDAM Guidelines for Validation for Probabilistic Genotyping Software-STRmix developmental validation-NCSCL Implementation, Internal validation summary, supplemental validation summary- Results & Diagnostics\_Laura Russell-STRmix Collaboration\_ Jo-Anne Bright |  |  |
| Assigned Readings – Statistics- Fundamental of Forensic DNA Typing, Chapter 11,Appendix 3- Advanced Topics in Forensic DNA Typing: |  |  |
| Interpretation, Chapters 9, 11, 12- **The Evaluation of Forensic DNA Evidence**, National Research Council, National Academy Press, 1996 (NRCII)- **Source Attribution of a Forensic DNA Profile**, Forensic Science Communications, July 2000, vol 2, no3- Chakraborty, R. 1992. **Establishing the Robustness of Short Tandem Repeat Statistics for Forensic Applications**. Human Biology, 64(2): 141-159.- NIST database reference, FSI: Genetics, 7 (2013) e82 –e83. |  |  |
| **CODIS Operations** |  |  |
| CODIS Lecture |  |  |
| Demonstration of Use of Specimen Manager |  |  |
| Demonstration of Sample Uploading |  |  |
| Demonstration of Printing Frequency Report |  |  |
| Demonstration of Use of the Match Estimator |  |  |
| Assigned Readings:- Fundamentals of Forensic DNA Typing, Chapter 12- Advanced Topics in Forensic DNA Typing: Methodology, Chapter 8, 9, Appendix 2 |  |  |
| **Notes, Report Writing, and Reviews** |  |  |
| Demonstration of use of FA worksheets and Biology workbook |  |  |
| Assigned Readings:- Butler Book, Appendix VII- Forensic Biology Procedure for Casework Report Writing |  |  |
| Review process lecture |  |  |
| Able to draft a satisfactory report from previously analyzed cases |  |  |
| **YSTR Analysis - optional** |  |  |
| Lecture |  |  |
| Read and understand procedures |  |  |
| Demonstration of YSTR amplification and CE Setup |  |  |
| Supervised amplification and CE setup |  |  |
| Amplify and CE assigned samples |  |  |
| Interpret assigned samples |  |  |
| Perform statistics and write reports |  |  |
| Successfully complete Quiz on YSTR Analysis |  |  |
| **Training Samples** |  |  |
| FA Case Number: |
| Completion and Review of Known Blood Samples |  |  |
| Completion and Review of Known Saliva/Buccal Samples |  |  |
| Completion and Review of Unknown Blood Samples |  |  |
| Completion and Review of Differential Samples |  |  |
| Completion and Review of Cigarette Butt Samples |  |  |
| Completion and Review of “Touch”/Epithelial Samples |  |  |
| Completion and Review of Hair Root Samples |  |  |
| Optional: Completion and Review of Bone or Teeth Samples |  |  |
| Optional: Completion and Review of YSTR Samples  |  |  |
| **Complete Other Readings As Assigned** |  |  |
| **Competency Testing** |  |  |
| Successful Completion of Competency Test 1FA Case Number: |  |  |
| Successful Completion of Competency Test 2FA Case Number: |  |  |
| Successful Completion of Competency Test 3FA Case Number: |  |  |
| Successful Completion of Final Written Test | Score: |  |
| Successful Completion of Oral Board |  |  |
| **Mock Case Sets** |  |  |
| Set 1: FA Case Numbers:  |  |  |
| Set 2: FA Case Numbers: |  |  |
| Set 3: FA Case Numbers: |  |  |
| Set 4: FA Case Numbers: |  |  |
| Set 5: FA Case Numbers: |  |  |
| Set 6: FA Case Numbers: |  |  |
| **Courtroom Testimony** |  |  |
| Lecture |  |  |
| Read Assigned Courtroom Transcripts |  |  |
| Assigned Readings:- **Advanced Topics in Forensic DNA Typing: Methodology**, Chapter 18, Appendix 4- *N.C. vs Ragland*- *Crawford v Washington* (2004)- *Melendez-Diaz v. Massachusetts* (2009) |  |  |
| Observed Courtroom Testimony (at least 3 required)(Date, Type of Case)1 2 3 4 5  |  |  |
| Practice Moot Court 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  |
| Successful Completion of Moot CourtFA Case Number:  |  |  |

This Forensic Scientist is approved for independent casework analysis in the following training area(s).

|  |  |  |
| --- | --- | --- |
| **Analysis Type** | **Technical Leader Signature** | **Date** |
| Blood Analysis |  |  |
| Semen Analysis |  |  |
| STR DNA Analysis |  |  |
| YSTR DNA Analysis |  |  |