

DNA Analyst Training Laboratory Training Manual

User Guide



PRESIDENT'S
DNA
INITIATIVE



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Introduction

One of the main goals of the President's DNA Initiative is to provide basic and advanced training about the use of forensic DNA. The "DNA Analyst Training" is one of several trainings funded by the President's DNA Initiative. Other trainings discuss theory and forensic issues that form the foundation of an analyst's practical work. All trainings are available on www.DNA.gov.

This Laboratory Training Manual is both (1) a complement to the instruction available from the President's DNA Initiative and (2) a standalone resource for laboratories with established training programs. The Manual gives examples of methods used in forensic laboratories, but it is not intended to cover all methods.

The Laboratory Training Manual is not suitable for self-directed learning; it is a tool in the partnership between the trainer and the trainee. The trainer may be a member of the laboratory staff, college faculty member, or a contractor.

Laboratories must arrange access to facilities for the practical exercises. Arrangements can be made in several ways:

- By individual laboratory
- Through regional cooperation of several laboratories
- Through partnership with a local training institution

Note: Allow at least eight weeks before the training to set up and conduct a preliminary run through. If the training is outsourced, identify the training partner and provide them with the Laboratory Training Manual in advance.

A laboratory's DNA Technical Leader has responsibilities under the National Quality Assurance Standards for DNA Testing (QAS). These include oversight of DNA training programs and approval and documentation of analyst qualifications prior to independent casework. This program is set up to foster a close working relationship between the DNA Technical Leader and trainee.

The DNA Technical Leader is responsible for:

- Meeting with the student, developing an Individual Training Plan, and setting target dates for completion
- Preparing students for the Demonstration of Competency
- Evaluating a student's progress

Students must demonstrate practical competency to the satisfaction of the Technical Leader by completing the practical exercises outlined in the Individual Training Plan. The Laboratory Training Manual includes review questions to facilitate discussion between the student and the Technical Leader.

The specific requirements outlined for DNA analyst training in the QAS include the laboratory's responsibility to:

- Establish and document a training program that coincides with the procedures used in their facility
- Establish, maintain, and make available for review training records for each trainee
- Establish training records that document a formal recognition of a trainee's successful completion of the training program

The Laboratory Training Manual uses the [Scientific Working Group on DNA Analysis Methods \(SWGDM\) Training Guidelines](#) as a reference for establishing a training program. The manual provides a minimum benchmark for laboratories; the laboratory may add exercises as prescribed by their procedures and policies.

The SWGDAM Training Guidelines recommend that laboratory training programs, at a minimum, address the following:

- Evidence handling
- Foundational scientific knowledge
- Applied scientific knowledge
- Laboratory analysis
- Report writing
- Legal issues
- Final evaluation

Structure of the Laboratory Training Manual

The Laboratory Training Manual consists of:

1. The Laboratory Training Manual User Guide. This guide discusses trainer and trainee responsibilities and contains the laboratory exercises and related documents. It is recommended that first-time users of the Laboratory Training Manual review all program documents.
2. A set of Linked Documents, which contains folders covering:

Folder Name	Contents
Laboratory Exercises	Laboratory exercises are presented by subject for the areas that require practical exercises. Review questions are included to facilitate discussion.
Sample Protocols	The Laboratory Training Manual assumes that the protocols in the laboratory's SOPs will be used for the practical exercises. Protocols for the exercises are included in the manual for facilities that wish to use them. Sample protocols are numbered and linked from the Laboratory Training Manual content for easy reference by the trainee. A table of all protocols is available in this User Guide for easy access to all provided protocols.
Literature Resources	Literature resources are provided for the subjects covered in the manual. The resources are organized by category/topic and may cover additional topics. The listing may include works already listed in the Works Cited section of the PDI knowledge base. A link to this global document is provided at the end of this document and at the beginning of each subject laboratory component.
Sample Forms	Sample forms for an <i>Individual Training Plan</i> and a <i>Demonstration of Competency</i> are provided. The forms are designed to assist the Trainer and Trainee to develop a training plan that incorporates the laboratory's SOPs. The trainee completes the practical exercises outlined in the Individual Training Plan form and the trainer/technical leader approves successful completion.

Laboratory Policies and Procedures

Trainer Responsibilities

1. Provide trainee with the appropriate laboratory SOPs, quality system manuals, and safety system manuals
2. Provide trainees with instruction regarding the various services (disciplines) offered by the laboratory and the laboratory's specific evidence handling guidelines (not included in this manual)
3. Determine the assessment criteria for the trainee
4. Review, verify, and document assignment completion

Trainee Responsibilities

1. Read all of the appropriate laboratory SOPs, quality system manuals, and safety system manuals
2. Complete instruction regarding the various services (disciplines) offered by the laboratory and the laboratory's specific evidence handling guidelines (not included in this manual)
3. Document and submit assignment completion as required by the trainer

Protocols

Practical exercises were developed for use this training. The expectation is that the trainee will use their laboratory's established protocols (SOPs) upon return to their workplace.

There may be instances when the laboratory does not have an SOP for one or more method and could use the provided protocols. Most of these have been based on SOPs used by the Illinois State Police (ISP). *This is not an endorsement by ISP of this training nor is it an endorsement by the NFSTC of the ISP protocols.* However, the SOPs are from a well-established operational laboratory that has successfully completed many cycles of accreditation and other review. These SOPs were successfully transferred by the NFSTC into a training environment when a face-to-face version of the DNA analyst training was provided to a group of ISP staff.

Trainer Responsibilities

1. Provide trainee with the laboratory's SOP's (protocols)
2. Determine the assessment criteria
3. Review, verify, and document assignment completion

Trainee Responsibilities

1. Read all of the required protocols, as assigned by the laboratory trainer
2. Document and submit assignment completion as required by the trainer

