



### D34 Northeast Regional DNA Academy Performance Metrics

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After attending this presentation, attendees will be able to design a curriculum to include performance metrics that address the quality and productivity of forensic science DNA analyses. This presentation will demonstrate the key to quality in forensic science is education. Continuous courseware from academic institutions with competency assessments is needed for new scientist training and continuing education for experienced scientists.

This presentation will describe the curriculum and performance metrics of the NERFI DNA academy. Conceived as a regional center of excellence, the NERFI addresses a critical and ongoing need to produce highly trained, case-ready technical personnel for careers in professional forensic laboratories. NERFI will foster collaborations between local, state, and federal criminal justice agencies and other academic institutions to develop forensic programs in education, research, and outreach. The DNA Academy program was designed to provide a solution to address the nationwide shortage of forensic scientists. The explosive growth of DNA technology in the field of forensic science has created critical casework backlogs in all public and private forensic laboratories. Traditionally, the overwhelming majority of forensic laboratories have been forced to use one – on – one mentor training for new and existing employees. Laboratory efficiency is decreased by Mentor training and competition for casework instruments by 50%. The goal of the DNA Academy is to shorten the conventional one - on - one mentor training programs from one year to six months with a dedicated state of the art forensic training facility, university approved curriculum, staffed with SUNY Albany faculty and nationally renowned visiting scientists. Students successfully completing the DNA Academy will earn 12 credit hours of graduate course work. More importantly, the newly trained scientists will also meet all mandated state or international accreditation standards for forensic laboratories.

The curriculum from the Graduate program in Forensic Molecular Biology has provided the courseware framework for the DNA Academy. The University at Albany was one of the first in the Northeast to deliver a 40 credit Graduate Program in Forensic Molecular Biology. Overall, this program has been very successful. Thirty-five students are now enrolled in the program. The program is now in its fourth year and graduates have proceeded to placement in many private laboratories, public laboratories, and Ph.D. programs.

The DNA Academy curriculum consists of four modules that deliver 12 graduate credits hours of academic course work. Module 1 is a one credit hour, 8-week long distance learning component that provides the latest theories of forensic DNA technologies. A digital library of all pertinent reference materials and interactive video conferencing will be used for the distance-learning module. Module two and three consist of eight weeks of laboratory instruction held at the University at Albany. The “Mirror Laboratory” concept will employ the latest technologies currently in use in all forensic laboratories. The students will analyze evidentiary samples that are identical to the items received at crime scenes and submitted to forensic laboratories. For example, bloodstains on all types of substrates will be recognized, collected, amplified, and analyzed by identical instruments and techniques used in forensic laboratories. Moot court will then be used to measure the competency of all students as per national accreditation guidelines. The program is concluded with Module 4, a one credit hour, 4-week distance-learning component that instructs students in advanced techniques and report writing. Individual segments of the program will also be used to provide professional development programs that are mandated by legislative accreditation criteria. The graduates of the program will be competent to analyze a variety of evidentiary items routinely submitted for DNA analyses when they return to their home laboratories.

The authors will present performance metrics (number of extractions, quantifications, amplifications, and profiles generated) from a variety of samples analyzed by the students at the NERFI DNA Academy. Follow up surveys of the students will evaluate and compare mentor training to NERFI DNA Academy programs.

#### **Forensic Education, Performance Metrics, DNA**