

MARSHALL UNIVERSITY



FORENSIC SCIENCE CENTER

Emerging DNA Analysis Technologies

After completion of the following training component, the trainee shall:

Qiagen Qiagility Overview

- Recognize the major components of the Qiagen Qiagility Workstation
- Understand the preventative maintenance requirements associated
- Equate workstation setup orientations to applications
- Optimize workstation for laboratory usage
- Distinguish between common consumables and their function

Method Writing 101

- Recognize basic method components
- Apply orientation knowledge to method optimizations
- Recognize analytical procedure requirements as they apply to method steps
- Develop a method given consumable and reagent restrictions
- Edit a method for optimized results
- Troubleshoot method errors, if needed

Applied Biosystems HID Real-Time PCR Analysis Software v1.1 Review

- Recognize the advancements in this software over SDS v1.2.3
- Understand the preventative maintenance manager and its implementation
- Comprehend the variation in use of Real-Time chemistries on this instrument
- Appreciate the advanced template design and chemistry specific features
- Explore template development and implementation
- Analyze data generated on the software and optimize interpretation
- Develop interpretation schemes based on data output

Improved Amplification with PXHS, MF, IDD and ID+

- Review emerging amplification kits that promise improved performance
- Compare and contrast amplification methodology and implementation
- Recognize optimal sample types per manufacturers guarantees
- Understand the optimal use of each amplification chemistry
- Appreciate the results obtained on previously amplified samples
- Explore implementation options of each chemistry

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Mastering the Applied Biosystems 3500xL

- Recognize the components of the instrument and software
- Review instrument use procedures
- Compare and contrast software features of the 3130xL and the 3500xL
- Recognize separation optimization
- Understand the implementation of advanced software features and collection modes
- Develop run module settings to optimize data generation
- Appreciate improved instrument sensitivity
- Explore software wizards and preventative maintenance manager features
- Incorporate advanced features into a validation scheme for the 3500xL

Expedited Analysis Using GeneMapper ID-X

- Identify improvements in GMID-X over GMID
- Recognize administrative features and implement analysis restrictions
- Review analysis settings setup and optimization
- Analyze reference samples using GMID-X as an expert system
- Analyze forensic samples using GMID-X as an expert system
- Incorporate mixture deconvolution tools and forensic applications
- Explore software features for analysis optimization

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