

Forensic Final Exam Review Guide

History of Forensic Science

What is forensics

Famous criminalists: Vidocq, Locard

Crime Scene Investigation

4 steps of CSI

Physical vs direct evidence

General CSI procedures

Responsibilities of the first responding officer

Basics of crime scene sketching (triangulation vs baseline, evidence table)

Proper collection of evidence

The Forensic Laboratory

Accreditation/Quality assurance program

Classifying and using physical evidence in a lab (reconstructive vs associative evidence)

Fingerprinting

History of fingerprints (Bertillonage system, Henry system)

Classifying fingerprints (loop, arch, whorl, most common?, subcategories of each)

Minutiae

AFIS/IAFIS

Types of evidentiary fingerprints (patent, latent, plastic)

Enhancement of latent prints (Physical: dusting, Magna brush, SPR; Chemical: cyanoacrylate/superglue fuming, ninhydrin, iodine fuming, physical developer/PD; Special illumination)

Trace Evidence: Hair, Fibers, Glass

Instruments for trace analysis (compound light microscope, stereobinocular light microscope, microspectrophotometry)

Hair

--structure (cuticle, cortex, medulla)

--animal vs human (medullary index)

--class or individual evidence?

Fibers

--classification of and examples of each kind (naturally occurring, manufactured or man-made, synthetic)

--chemical composition of fibers (wool and silk vs. cotton and linen)

--Wayne Williams case

Glass

--fractures (radial vs. concentric)

--order of impacts

Impression Evidence

Footwear Impressions

- soil texture triangle
- 3D vs 2D footwear impressions
- information from footwear impressions
- recovery of footwear impression evidence (examination quality photos, 2D lifting, 3D casting)

Tire & Tire Track Impressions

- tire track vs. tire impression
- tread design components (rib, groove, centerline, sip, tread wear indicator)
- DOT number
- noise treatment (what is it, how can it be useful to investigators)
- recovery (photos, cast, suspect vehicle prints)

Tool Impressions

- types of tool marks (compression, sliding, cutting)
- collection procedures (notes, photos, sketches, take back to lab or cast with silicone rubber)

Questionable

- Examples of
- handwriting analysis
 - 2 principles of handwriting comparison
 - Writing standards (non-request vs. request)
 - 12 characteristics of handwriting (line quality, pen lifts, etc)
- forgery (blind/normal hand, simulated, traced)
- obliterations and alterations (detection of—ex. Chromatography)

Forensic Serology

DNA

- What is DNA?
- ways to analyze extracted DNA (DNA fingerprinting, karyotype)

Blood

- blood typing
- bloodstain pattern analysis (properties of human blood, direction of travel, angle of impact, triangulation)

Forensic Toxicology

Forensic Psychiatry