

Forensic Science (2014)

Explore Foundations of Forensic Science **FS.1**

1 Examine the History of Forensic Science **FS.1.1**

- 1 Define forensic science **FS.1.1.1**
 - 2 Identify the major disciplines it encompasses **FS.1.1.2**
 - 3 Construct a timeline of significant contributions in forensic science **FS.1.1.3**
 - 4 Research major contributors to the field of forensic science **FS.1.1.4**
 - 5 Recognize and implement Locard's Exchange Principle **FS.1.1.5**
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2 Understand the Role of Forensic Science in the Criminal Justice System **FS.1.2**

- 1 Differentiate between local, state, and federal agencies **FS.1.2.1**
 - 2 Summarize roles of the law enforcement organizations **FS.1.2.2**
 - 3 Research duties and responsibilities of forensic science personnel **FS.1.2.3**
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3 Examine Different Types of Evidence **FS.1.3**

- 1 Compare and contrast physical and testimonial evidence **FS.1.3.1**
 - 2 Identify legal and proper evidence collection techniques **FS.1.3.2**
 - 3 Categorize physical evidence **FS.1.3.3**
 - 4 Evaluate evidence for its probative value in criminal proceedings **FS.1.3.4**
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4 Explore Careers in Forensic Science **FS.1.4**

- 1 Investigate the variety of careers in the forensic science field **FS.1.4.1**
 - 2 Research educational requirements for forensic careers **FS.1.4.2**
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Examining Legal and Ethical Issues in Forensic Science **FS.2**

1 Examine Legal Issues **FS.2.1**

- 1 Explore the Fourth Amendment and recognize legal search and seizures **FS.2.1.1**
- 2 Model procedures to ensure chain of custody when collecting evidence **FS.2.1.2**
- 3 Research Frye, Miranda, and Daubert court cases **FS.2.1.3**
- 4 Understand how landmark court cases have determined admissibility of evidence in courtrooms **FS.2.1.4**
- 5 Employ good practices of confidentiality **FS.2.1.5**

2 Examine Ethical Issues FS.2.2

- 1 Define ethics, integrity, and bias FS.2.2.1
 - 2 Research case studies to illustrate proper guidelines FS.2.2.2
 - 3 Practice unbiased evidence collection, forensic analysis, and testimony FS.2.2.3
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3 Model Professionalism FS.2.3

- 1 Recognize and implement a proper code of conduct for a career in the forensic field FS.2.3.1
 - 2 Recognize and implement proper etiquette for crime scene investigations FS.2.3.2
 - 3 Apply good communication through verbal, written and testimonial skills FS.2.3.3
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Explore Crime Scene Investigations FS.3

1 Identify and Utilize Crime Scene Procedures FS.3.1

- 1 Demonstrate proper procedures to secure a crime scene FS.3.1.1
 - 2 Identify the scope of a crime scene FS.3.1.2
 - 3 Identify safety hazards in crime scene investigation FS.3.1.3
 - 4 Implement proper safety protocols FS.3.1.4
 - 5 Describe and implement searching techniques FS.3.1.5
 - 6 Examine constitutional/legal protections in crime scene investigations FS.3.1.6
 - 7 Identify and utilize information sources during an investigation FS.3.1.7
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2 Utilize Scene Documentation FS.3.2

- 1 Recognize and implement appropriate measurement technique FS.3.2.1
 - 2 Utilize note taking techniques FS.3.2.2
 - 3 Explain procedures in crime scene photography FS.3.2.3
 - 4 Implement sketching/diagramming techniques FS.3.2.4
 - 5 Prepare evidence logs FS.3.2.5
 - 6 Explain scene reconstruction FS.3.2.6
 - 7 Prepare crime scene investigation reports FS.3.2.7
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3 Examine Evidence Collection FS.3.3

- 1 Recognize potential evidence sources FS.3.3.1
 - 2 Identify sources of potential contamination FS.3.3.2
 - 3 Apply appropriate crime scene and evidence processing techniques FS.3.3.3
 - 4 Recognize and implement chain of custody procedure FS.3.3.4
 - 5 Demonstrate packaging and sealing techniques FS.3.3.5
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Recognize and Implement Laboratory Fundamentals FS.4

1 Explore Safety FS.4.1

- 1 Explain general lab safety FS.4.1.1
 - 2 Identify and utilize personal protective equipment (PPE) FS.4.1.2
 - 3 Identify biological hazards FS.4.1.3
 - 4 Identify chemical hazards FS.4.1.4
 - 5 Understand proper disposal procedures FS.4.1.5
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2 Recognize and Utilize Lab Skills FS.4.2

- 1 Distinguish appropriate measurement devices for tasks FS.4.2.1
 - 2 Identify and utilize appropriate lab equipment FS.4.2.2
 - 3 Understand contamination control procedures FS.4.2.3
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3 Understand Quality Assurance FS.4.3

- 1 Explore individual certification requirements FS.4.3.1
 - 2 Explore laboratory accreditation requirements FS.4.3.2
 - 3 Understand quality control analysis procedures FS.4.3.3
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Explore Forensic Disciplines FS.5

1 Examine Biological Evidence FS.5.1

- 1 Recognize types of biological evidence FS.5.1.1
 - 2 Describe methodology for current biological evidence analysis techniques FS.5.1.2
 - 3 Compare and contrast presumptive and confirmatory results in biological analysis FS.5.1.3
 - 4 Critique the combined DNA index system (CODIS) FS.5.1.4
 - 5 Summarize interpretation and conclusions for biological evidence analysis FS.5.1.5.
 - 6 Compose report for biological evidence analysis FS.5.1.6
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2 Examine Chemical Evidence FS.5.2

- 1 Recognize types of chemical evidence FS.5.2.1
- 2 Describe methodology for toxicology, controlled substances and arson analysis FS.5.2.2
- 3 Compare and contrast presumptive and confirmatory results in chemical analysis FS.5.2.3
- 4 Summarize interpretation and conclusions for toxicology, controlled substance and arson analysis FS.5.2.4
- 5 Compose reports for toxicology, controlled substance, and arson analysis FS.5.2.5

3 Examine Fingerprint Evidence FS.5.3

- 1 Compare and contrast latent, plastic, patent, and ink prints FS.5.3.1
 - 2 Compare and contrast latent print processing techniques FS.5.3.2
 - 3 Understand photography as it applies to latent print processing and recovery FS.5.3.3
 - 4 Understand comparison methodology FS.5.3.4
 - 5 Understand structure of automated fingerprint identification system (AFIS) FS.5.3.5
 - 6 Summarize interpretation and conclusions for fingerprint evidence FS.5.3.6
 - 7 Compose report for fingerprint comparison FS.5.3.7
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4 Examine Firearm and Tool Mark Evidence FS.5.4

- 1 Recognize firearms and tool mark evidence FS.5.4.1
 - 2 Describe methodologies for firearm, tool mark and serial number restoration FS.5.4.2
 - 3 Understand structure of National Integrated Ballistic Information Network (NIBIN) FS.5.4.3
 - 4 Summarize interpretation and conclusions for firearms, tool marks and serial number restoration FS.5.4.4
 - 5 Compose reports for firearms, tool marks and serial number restoration FS.5.4.5
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5 Examine Additional Disciplines FS.5.5

- 1 Explore question documents FS.5.5.1
 - 2 Explore shoe and tire impression evidence FS.5.5.2
 - 3 Explore trace evidence FS.5.5.3
 - 4 Explore digital evidence FS.5.5.4
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Understand Courtroom Proceedings FS.6

1 Identify Courtroom Processes FS.6.1

- 1 Identify roles and responsibilities of courtroom personnel FS.6.1.1
 - 2 Identify the components of legal proceedings FS.6.1.2
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2 Describe the Role of Expert Witnesses FS.6.2

- 1 Compare and contrast qualifications of expert versus lay witnesses FS.6.2.1
 - 2 Describe forensic methodology to jury FS.6.2.2
 - 3 Demonstrate courtroom demeanor FS.6.2.3
 - 4 Understand direct examination questioning FS.6.2.4
 - 5 Understand cross examination questioning FS.6.2.5
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Explore Forensic Specialties FS.7

1 Explore Death Investigation FS.7.1

- 1 Discuss the determination of cause and manner of death FS.7.1.1
 - 2 Explore forensic pathology FS.7.1.2
 - 3 Compare and contrast injury types FS.7.1.3
 - 4 Distinguish post-mortem changes FS.7.1.4
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2 Explore Forensic Anthropology FS.7.2

- 1 Define anthropology FS.7.2.1
 - 2 Explore the examination of skeletal remains FS.7.2.2
 - 3 Develop an anthropological profile FS.7.2.3
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3 Explore Forensic Entomology FS.7.3

- 1 Discuss the determination of post-mortem interval FS.7.3.1
 - 2 Identify entomological collection procedure FS.7.3.2
 - 3 Identification of species using a variety of sources FS.7.3.3
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4 Explore Forensic Odontology FS.7.4

- 1 Understand dental identification FS.7.4.1
 - 2 Critique bite mark analysis FS.7.4.2
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5 Explore Forensic Psychology FS.7.5

- 1 Discuss forensic psychology in criminal investigations FS.7.5.1
- 2 Explore psychological/criminal profiling FS.7.5.2