

Forensic Science

Adopted 2019

Obtain, evaluate, and communicate information to properly conduct a forensic investigation of a crime scene. **SFS1**

- a. Construct an explanation of how scientific forensic techniques used in collecting and submitting evidence for admissibility in court have evolved over time. **SFS1.A**
- b. Plan and carry out investigations using the scientific protocols for analyzing a crime scene (e.g., search, isolate, collect, and record). **SFS1.B**
- c. Construct an argument from evidence explaining the relevance of possible evidence at the site of an investigation. **SFS1.C**
- d. Develop models to analyze and communicate information obtained from the crime scene. **SFS1.D**

Obtain, evaluate, and communicate information on various scientific techniques to analyze physical, trace, and digital evidence. **SFS2**

- a. Plan and carryout an investigation to determine the value of physical and trace evidence. **SFS2.A**
- b. Plan and carryout an investigation to analyze the morphology and types of hair, fibers, soil and glass evidence in order to make a physical match examination. **SFS2.B**
- c. Use models for the evaluation of handwriting and document evidence. **SFS2.C**
- d. Analyze and interpret data to evaluate digital sources of evidence. **SFS2.D**
- e. Ask questions to determine the appropriate uses of chromatography and spectroscopy in evidence analysis. **SFS2.E**

Obtain, evaluate, and communicate information relating to biological evidence in forensic investigations. **SFS3**

- a. Ask questions to investigate types of toxins, poisons, and drugs and their effects on the body. **SFS3.A**
- b. Analyze and interpret data to investigate the effects of blood alcohol content on the body. **SFS3.B**
- c. Construct an explanation to distinguish the difference between human and animal blood. **SFS3.C**
- d. Plan and carry out an investigation to analyze the physics of bloodstain patterns. **SFS3.D**
- e. Plan and carry out an investigation involving DNA processing and analysis. **SFS3.E**

Obtain, evaluate, and communicate information to analyze the role of impression evidence in order to make a physical match examination. SFS4

- a. Construct an explanation for utilizing the appropriate technique to lift and evaluate identifiable, latent, plastic and patent fingerprints. SFS4.A

- b. Analyze and interpret data regarding impression evidence. SFS4.B

- c. Construct an explanation to support the significance of impression evidence in an investigation. SFS4.C

Obtain, evaluate, and communicate information to Medicolegal Death Investigations. SFS5

- a. Ask questions to identify various causes of death (blunt force trauma, heart attack, bleeding, etc.). SFS5.A

- b. Construct an argument based on evidence that pertains to the manner of death (natural, homicide, suicide, accidental, or undetermined). SFS5.B

- c. Use mathematics and computational thinking to explain post mortem changes used to determine post mortem interval (PMI):
 - Rigor mortis
 - Livor mortis
 - Algor mortis
 - Gastric contents SFS5.C

- d. Analyze and interpret entomological data to evaluate the role insects play in decomposition and determining PMI. SFS5.D

- e. Plan and carry out an investigation to analyze height, sex, age, and race to develop an anthropological profile of the victim and potential perpetrator. SFS5.E