Alabama CTE

Forensic Science and Crime Scene Investigation (2020)

Introduction to Forensic Science FORENSIC SCI.A	1 **Obtain, evaluate, and communicate information to describe the role of forensic science and evidence collection from historical cases in the criminal justice system.** FORENSIC SCI.A.1
	2 **Apprise the different types of forensic science laboratories and professional organizations.** FORENSIC SCI.A.2
	3 **Apply concepts of the scientific method to forensic science and to crime scene investigations.** FORENSIC SCI.A.3
Physical Evidence FORENSIC SCI.B	4 **Classify physical evidence based on how it is produced.** FORENSIC SCI.B.4
	5 **Plan and carry out an investigation to determine the value of physical and trace evidence.** FORENSIC SCI.B.5
	6 **Use models for the evaluation of handwriting and document evidence.** FORENSIC SCI.B.6
	7 **Construct explanations from collections of evidence, using various pathological and anthropological techniques.** FORENSIC SCI.B.7
	8 **Develop and use mathematical models to estimate height from bone length.** FORENSIC SCI.B.8
	9 **Distinguish between admissible and inadmissible scientific and technical evidence supplied by expert witnesses in criminal cases.** FORENSIC SCI.B.9
Crime Scene Procedures, Techniques, and Analysis FORENSIC SCI.C	10 **Explain the differences between processing and analyzing evidence.** FORENSIC SCI.C.10
	11 **Analyze and interpret data from different types of crime scene evidence to determine which forensic crime lab unit would have responsibility. Example: soil, blood spatter, shoe print, hair, computer, glass, pills, fibers** FORENSIC SCI.C.11
	12 **Construct an explanation of how scientific forensic techniques used in collecting and submitting evidence for admissibility in court have evolved over time.** FORENSIC SCI.C.12

	13 **Plan and carry out investigations using the scientific protocols for analyzing a crime scene. Example: Set perimeter, search, isolate, collect evidence, photograph, sketch, and record.** FORENSIC SCI.C.13
	14 **Construct an argument from evidence explaining the relevance of possible evidence at a site of an investigation.** FORENSIC SCI.C.14
	15 **Develop models to analyze and communicate information obtained from the crime scene. Example: Properly document and sketch a crime scene.** FORENSIC SCI.C.15
Blood and Physiological Fluid Evidence FORENSIC SCI.D	16 **Plan and carry out an investigation to use antigens and antibodies to determine blood type and to identify crime suspect(s) based on the results.** FORENSIC SCI.D.16
	17 **Gather and share information about forensic identification of body fluids.** FORENSIC SCI.D.17
	18 **Summarize important considerations in forensic investigation of sexual assault.** FORENSIC SCI.D.18
	19 **Analyze and interpret DNA evidence to match a suspect to biological samples, identifying conditions and/or situations where errors commonly occur, and cite reasons for possible errors.** FORENSIC SCI.D.19
	20 **Collect and preserve biological evidence for DNA analysis** FORENSIC SCI.D.20
	21 **Differentiate among blood-borne pathogens and describe their effects on the human body.** FORENSIC SCI.D.21
Physical Pattern Evidence and Technological Examinations FORENSIC SCI.E	22 **Analyze distinctive features of toolmark striations and impressions.** FORENSIC SCI.E.22
	23 **Analyze distinctive features of tire, footwear, and other impression evidence.** FORENSIC SCI.E.23
	24 **Plan and carry out an experiment using the process of chromatography to analyze and identify ink marks.** FORENSIC SCI.E.24
	25 **Perform physical and chemical analyses of evidence obtained from a crime scene, victim, and suspect, using spectrophotometers and other appropriate equipment to answer pertinent questions in the investigation. Examples: examine broken glass to determine the direction, size, and velocity of the object which struck it; determine whether soil from a victim's shoe matches soil at the scene** FORENSIC SCI.E.25
	26 **Develop fingerprints and classify characteristics for identification by using distinguishing features.** FORENSIC SCI.E.26

	27 **Collect and analyze latent prints using proper forensic tools and techniques. Examples: black powder, iodine, cyanoacrylate adhesive** FORENSIC SCI.E.27
	28 **Retrieve fingerprints and classify characteristics for identification by using distinguishing features. Examples: core, delta, bifurcation, bridge** FORENSIC SCI.E.28
	29 **Analyze and compare examples of firearm evidence.** FORENSIC SCI.E.29
	30 **Construct an explanation based on the path of a moving projectile to indicate how the trajectory of an object can determine the position of the person releasing the object.** FORENSIC SCI.E.30
Forensic Toxicology, Drugs, and Drug Analysis FORENSIC SCI.F	31 **Differentiate among the five distinct categories or schedules of drugs, including chemical composition and effects on the human body.** FORENSIC SCI.F.31
	32 **Critique methods for laboratory analysis of controlled substance and design a solution to determine toxicity of a drug in a human based on body mass.** FORENSIC SCI.F.32
	33 **Ask questions to develop a time-of-death estimation in an actual or simulated situation, using signs of rigor mortis and stages of decomposition.** FORENSIC SCI.F.33
	34 **Compare the effects of various levels of alcohol in the human body.** FORENSIC SCI.F.34
Arson and Explosives Investigations FORENSIC SCI.G	35 **Compare types of combustion reactions and give examples.** FORENSIC SCI.G.35
	36 **Analyze burn patterns in the investigation of fire scenes.** FORENSIC SCI.G.36
	37 **Gather, evaluate, and share information on methods for recovery and analysis of residues of ignitable liquids.** FORENSIC SCI.G.37
	38 **Classify explosives and explosions based on their characteristics.** FORENSIC SCI.G.38
Cybersecurity FORENSIC SCI.H	39 **Assess cybersecurity tools, techniques, and technologies** FORENSIC SCI.H.39
	40 **Analyze basic computer evidence recovery techniques.** FORENSIC SCI.H.40
	41 **Demonstrate strategies for starting and managing a network intrusion investigation.** FORENSIC SCI.H.41
	42 **Assess methods of mobile device seizure and evidence recovery.** FORENSIC SCI.H.42

Communication FORENSIC SCI.I

43 **Create incident reports and forensic laboratory analysis reports.** FORENSIC SCI.I.43

44 **Cite evidence and provide oral testimony in actual or simulated situations.** FORENSIC SCI.I.44