**Criminal Justice Course 4. Investigation and Forensics in Criminal Investigation**

**Description:** Forensic Science is a course that uses a structured and scientific approach to the investigation of crimes of assault, abuse and neglect, domestic violence, accidental death, and homicide. Students will learn terminology and investigative procedures related to crime scene, questioning, interviewing, criminal behavior characteristics, truth detection, and scientific procedures used to solve crimes. Using scientific methods, students will collect and analyze evidence through case studies and simulated crime scenes such as fingerprint analysis, ballistics, and blood spatter analysis. Students will learn the history, legal aspects, and career options for forensic science.

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| **Outcome** | * 1. Investigative Process: Investigate and document scenes, individuals, and incidents. | | | | | | | |
| **Competencies** | * + 1. Outline the investigative process from determination that a crime was committed through evidence collection and prosecution.     2. Identify and provide aid to victims with minimal impact on a crime scene.     3. Identify and secure the crime scene, using proper chain of custody procedures for evidence collection (e.g., finger prints, DNA, physical evidence, witness statements).     4. Document the crime scene through sketches, photography, and video that include measurements.     5. Collect, package, tag, and preserve different types of evidence.     6. Identify, locate, and apprehend a suspect.     7. Apply the legal standard of evidentiary chain of custody for collection, securing, transporting, storing, releasing, and final disposition.     8. Identify signs of mental and physical abuse or neglect of children and adults and report as mandated by law.     9. Describe the role and function of the coroner and medical examiner in investigations. | | | | | | | |
| **Pathways** | X | Criminal Justice | | |  | Fire | | |
| **Green Practices** |  | Green-specific |  | Context-dependent | | | X | Does not apply |

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| **Outcome** | * 1. Interviews and Interrogations: Gather and analyze verbal and nonverbal information to investigate a crime. | | | | | | | |
| **Competencies** | * + 1. Distinguish facts from fiction through listening and observing the subject’s body language, eye movement, voice tone, and inflection.     2. Interpret a subject’s responses using kinesics.     3. Assist witnesses in enhancing their memory.     4. Select and use different interrogation styles based on subject characteristics and behavior.     5. Describe the impact of location and environment on information obtained.     6. Explain why individuals make false confessions. | | | | | | | |
| **Pathways** | X | Criminal Justice | | |  | Fire | | |
| **Green Practices** |  | Green-specific |  | Context-dependent | | | X | Does not apply |

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| **Outcome** | * 1. Drugs and Toxicology: Describe the types of drug and toxicology evidence and identify the methods used for collection and analysis. | | | | | | | |
| **Competencies** | * + 1. Identify controlled substances in different forms.     2. Describe field drug testing and lab drug testing procedures.     3. Explain how false positives occur.     4. Investigate controlled substances, their ingredients, and associated crime scenes without causing harm or injury.     5. Describe the methods and legal issues of drug testing suspects and arrestees.     6. Prepare forensic toxicology reports for criminal proceedings. | | | | | | | |
| **Pathways** | X | Criminal Justice | | |  | Fire | | | |
| **Green Practices** |  | Green-specific |  | Context-dependent | | | X | Does not apply | |

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| **Outcome** | * 1. Blood and Fingerprints: Describe the collection, evaluation, and legal admissibility of blood and fingerprint evidence. | | | | | | | |
| **Competencies** | * + 1. Describe the characteristics of blood evidence (e.g., spatter, pooling, location) as they relate to a crime scene.     2. Locate unseen blood evidence at crime scenes.     3. Prepare blood evidence for criminal proceedings.     4. Describe the classification characteristics of fingerprints, palmprints, and footprints used in criminal investigations.     5. Collect, develop, and preserve latent prints.     6. Compare latent prints with prints on file to identify suspects.     7. Collect and analyze fingerprints using Automated Fingerprint Information Systems (AFIS), Web check, and other technology systems.     8. Prepare latent print analysis for criminal proceedings. | | | | | | | |
| **Pathways** | X | Criminal Justice | | |  | Fire | | | |
| **Green Practices** |  | Green-specific |  | Context-dependent | | | X | Does not apply | |

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| **Outcome** | * 1. Financial Crimes: Describe financial crimes and investigation methods. | | | | | | | |
| **Competencies** | * + 1. Describe the types of financial crimes.     2. Identify common frauds and their targeted populations (e.g., counterfeiting, identify theft, scams, e-mail and telephone fraud).     3. Investigate money laundering operations and the types of crimes it is used to cover up.     4. Interpret financial records using forensic accounting investigative techniques to determine if a crime has occurred.     5. Explain the use of financial forfeitures in criminal cases.     6. Use financial records in criminal proceedings. | | | | | | | |
| **Pathways** | X | Criminal Justice | | |  | Fire | | | |
| **Green Practices** |  | Green-specific |  | Context-dependent | | | X | Does not apply | |

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| **Outcome** | * 1. Forensic Science: Describe the history and role of the crime laboratory in analyzing forensic evidence and the conclusions that can be drawn through evidence analysis. | | | | | | | |
| **Competencies** | * + 1. Describe the role of forensic science in solving crimes and providing evidence in criminal cases.     2. Describe the historical development of forensic techniques in use (e.g., fingerprint analysis, deoxyribonucleic acid [DNA] analysis).     3. Interpret and summarize statistics and probability evidence.     4. Identify the possible range of forensic science evidence and data.     5. Draw conclusions from evidence and data.     6. Describe the role of statistical probability in lab results. | | | | | | | |
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| **Outcome** | * 1. Forensic Science Specialties and evidence: Describe the scientific specialties utilized to analyze forensic evidence in criminal investigations. | | | | | | | |
| **Competencies** | * + 1. Describe forensic anthropology, ballistics, entomology, odontology, pathology, chemistry, and engineering and the types of evidence each specialty analyzes.     2. Describe facsimile, plant, toolmark, impression, and digital evidence analyzed in forensic investigations.     3. Describe the use of deoxyribonucleic acid (DNA) evidence and its analysis in criminal investigations.     4. Identify and analyze trace evidence used in criminal investigations.     5. Identify evidence that should be submitted for lab analysis and the types of analyses that can be performed.     6. Describe the collection, evaluation, and legal admissibility of forensic evidence. | | | | | | | |
| **Pathways** | X | Criminal Justice | | |  | Fire | | |
| **Green Practices** |  | Green-specific |  | Context-dependent | | | X | Does not apply |