Course Essentials:

 Instructor: Dana Hasan

Course Title: The Science of Forensic Investigation

Short Description:

This course delves into the scientific principles and techniques used in forensic investigations, exploring how evidence is collected, analyzed, and applied in solving crimes.

By the end of this course, students will be able to:

1. Understand the role of forensic science in investigations.

2. Identify different types of evidence and their collection methods.

3. Explain the importance of forensic disciplines such as anthropology, pathology, toxicology, and entomology.

4. Analyze crime scenes using scientific methods like fingerprinting, ballistics, DNA analysis, and blood patterns.

5. Differentiate between class and individual evidence and their significance in investigations.

6. Apply forensic techniques to reconstruct crime scenes and determine causes of death (homicide, suicide or accidents).

7. Recognize ethical considerations and challenges in forensic science practices.

Curriculum Outline:

Module 1: Introduction to Forensic Science

- Lesson 1.1: What Is Forensic Science?

- Lesson 1.2: History of Forensic Science

- Lesson 1.3: Crime Lab Units and Professions

- Lesson 1.4: Overview of Evidence Collection

Module 2: Crime Scene Investigation

- Lesson 2.1: The Seven Ss of Crime Scene Investigation

- Lesson 2.2: Types of Evidence (Class vs Individual)

- Lesson 2.3: Crime Scene Documentation (Sketching, Photography, Chain of Custody)

Module 3: Forensic Disciplines

- Lesson 3.1: Forensic Anthropology: Identifying Skeletal Remains

- Lesson 3.2: Pathology: Determining Cause and Manner of Death

- Lesson 3.3: Toxicology: Analyzing Poisons and Drugs

- Lesson 3.4: Entomology: Using Insects in Investigations

Module 4: Specialized Techniques

- Lesson 4.1: Fingerprint Analysis: Classification and Development Methods

- Lesson 4.2: Ballistics: Firearms and Projectile Analysis

- Lesson 4.3: DNA Analysis: Techniques for Identification

- Lesson 4.4: Trace Evidence Analysis (Fibers, Tool Marks, etc.)

Module 5: Applying Forensic Science

- Lesson 5.1: Crime Scene Reconstruction Techniques

- Lesson 5.2: Profiling Suspects Using Behavioral Evidence

- Lesson 5.3: Ethical Issues in Forensic Science Practices

- Lesson 5.4: Innovations in Forensic Technology