Miami Dade College

Course Description

CHS2523 | Forensic Science 2 | 3.00 credits

This is a continuation of Forensic Science 1. Students will learn topics which include but are not limited to: drug identification and toxicology; document analysis; death determination; soil examination methodology; forensic anthropology; tool marks and casts/impressions. Prerequisite: CHS1522C.

Course Competencies:

Competency 1: The student will demonstrate knowledge of drug identification and toxicology as it relates to forensic science by:

1. Identifying the five types of controlled substances
2. Relating the signs and symptoms of overdose with a specific class of drugs or toxins
3. Describing the role of toxins in death causation
4. Conducting drug and urine analysis
5. Identifying agents that may be used in bioterrorism

Competency 2: The student will demonstrate knowledge of document analysis as it pertains to forensics by:

1. Describing handwriting characteristics
2. Identifying the primary goals of a forensic handwriting analysis
3. Describing technologies used in handwriting analysis
4. Distinguishing between forgery, counterfeiting, and fraudulence

Competency 3: The student will demonstrate knowledge of how time and cause of death are determined by:

1. Defining death
2. Distinguishing among manners of death: natural, accidental, suicidal, and homicidal
3. Differentiating among cause, manner, and mechanisms of death
4. Explaining the development of rigor, algor, and livor mortis after death
5. Calculating the approximate time of death
6. Explaining how environmental factors can be used to estimate the time of death

Competency 4: The student will demonstrate knowledge of sand and soil examination relevant to forensic investigations by:

1. Recognizing various sand and soil types
2. Describing methods for examining sand and soil samples
3. Explaining how sand and soil evidence can link suspects to crime scenes
4. Performing sand and soil analysis
5. Recognizing the importance of isotope ratios of elements found in microbial communities to the geographic origins of soil samples

Competency 5: The student will demonstrate knowledge of the field of forensic anthropology by:

1. Describing bone formation
2. Distinguishing between male and female skeletal remains
3. Describing the evidence that can be deciphered through analyzing bones
4. Explaining how genetic origin can be determined from facial structures
5. Describing the role of mitochondrial DNA in bone identification

Competency 6: The student will demonstrate the use of glass as forensic evidence by:

1. Explaining how glass is formed
2. Identifying the different types of glass
3. Describing characteristics and physical properties of glass
4. Explaining how glass is used as evidence

Competency 7: The student will demonstrate the use of casts and impressions in criminal investigations by:

1. Distinguishing among latent, patent, and plastic impressions
2. Describing how foot, shoe, and tire impressions are made
3. Explaining how types of impressions can be used as trace evidence

Competency 8: The student will demonstrate knowledge of tool marks in a forensic investigation by:

1. Describing the significant types of tool mark impressions
2. Explaining tool mark examination and analysis
3. Describing tool mark evidence collection, preservation, and documentation

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information