



Course Description

CHS1522C | Forensic Science 1 | 4.00 credits

An introductory course in the principles and techniques of forensic science. Students will learn how forensic science pertains to crime scene investigation and crime laboratory analysis.

Course Competencies:

Competency 1: The student will demonstrate knowledge of observation skills used in forensic science by:

1. Defining observation in the context of forensic science
2. Evaluating the mechanics of eyewitness testimony
3. Differentiating between eyewitness testimony and what happened
4. Practicing observation skills

Competency 2: The student will demonstrate knowledge of how a crime scene investigation is conducted by:

1. Distinguishing between direct and circumstantial evidence
2. Identifying the type of professionals involved in a crime scene investigation
3. Demonstrating the proper technique in securing, collecting, and packaging trace evidence

Competency 3: The student will demonstrate knowledge of how hair is used in forensic analysis by:

1. Identifying the structure of a hair
2. Distinguishing between human and nonhuman hair
3. Differentiating between hairs from different genetic origins

Competency 4: The student will demonstrate knowledge of the proper use of fibers and textiles in a forensic investigation by:

1. Identifying and describing weave patterns of textile samples
2. Comparing the physical characteristics of standard fibers for identification
3. Describing the chemical characteristics of standard fibers

Competency 5: The student will demonstrate how pollen and spore evidence can be used to help solve criminal cases by:

1. Distinguishing between pollen and spores
2. Defining a pollen "fingerprint"
3. Identifying the different mechanisms of pollination in plants
4. Explaining how pollen and spore evidence is collected at a crime scene
5. Describing how pollen and spore samples are analyzed and evaluated

Competency 6: The student will demonstrate the use of fingerprints in a forensic investigation by:

1. Reviewing the history of fingerprinting
2. Identifying the basic types of fingerprints
3. Determining the reliability of fingerprint identification
4. Explaining how fingerprint evidence is collected

Competency 7: The student will demonstrate the relevance of DNA fingerprinting by:

1. Processing crime scene evidence for DNA analysis
2. Analyzing DNA fragments isolated by gel electrophoresis
3. Describing DNA analysis techniques
4. Defining VNTR (variable number of tandem repeats) sequence
5. Describing how DNA fingerprinting results can be used in an investigation

Competency 8: The student will demonstrate the relevance of blood and blood spatter analysis in a forensic investigation by:

1. Describing the composition of blood evidence
2. Determining the blood type of a sample of blood
3. Analyzing blood spatter
4. Describing how blood evidence is used in forensics

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Use computer and emerging technologies effectively