COURSE SYLLABUS May 2015

Forensic Science I: Secrets of the Dead

COURSE DESCRIPTION

Forensic Science I: Secrets of the Dead

Fingerprints. Blood spatter. DNA analysis. The world of law enforcement is increasingly making use of the techniques and knowledge from the sciences to better understand the crimes that are committed and to catch those individuals responsible for the crimes. Forensic science applies scientific knowledge to the criminal justice system. This course focuses on some of the techniques and practices used by forensic scientists during a crime scene investigation (CSI). Starting with how clues and data are recorded and preserved, the student will follow evidence trails until the CSI goes to trial, examining how various elements of the crime scene are analyzed and processed.

COURSE METHODOLOGY

- This is an inquiry-based course. Students will generate knowledge through online readings, asynchronous discussions with students and their instructor, interactions with online tutorials, and online and hands-on simulations.
- The instructor will act as a guide, a facilitator, an events planner, and a resource advisor. He/she will always be available through course message.
- The student must actively construct and acquire knowledge by being intrinsically motivated to succeed. To succeed, students must participate and complete all readings and activities. This course requires the student's active participation.
- Both formal and informal assessment methods will be used in the course. Informal assessment will include an evaluation of the quality and timeliness of participation in class activities. Formal assessment may include multiple-choice quizzes, tests, discussion board participation, and written assignments. A final exam will be given at the end of the course.

COURSE PARTICIPATION OBJECTIVES

This course for which you are registered is a college preparatory, academically rigorous course that covers an entire semester's worth of material. As such, it is important that you adhere to the following guidelines as you manage your time and commit to successfully completing all required coursework:

1. The requirements for this course are equivalent to completion of minimum of 90+ hours of class instruction at a traditional on-site high school
2. Assignments must be submitted for each unit as they are completed so that the teacher may review and assess your performance. Do not hold your work, you must submit each unit's homework as it is completed, demonstrating weekly assignment completions
3. You must log in regularly to your course to demonstrate continued participation, and completion of all course requirements, including assignments, assessments and discussion forums
4. You must complete your individual work and any incident of suspected cheating, plagiarism or collaboration on assignments violates the academic integrity expectations outlined at the time of your enrollment and can result in failure of the course or further action as deemed appropriate

Citizenship

Students are expected to conduct themselves in a responsible manner that reflects sound ethics, honor, and good citizenship. It is the student's responsibility to maintain academic honesty and integrity and to manifest their commitment to the goals of NUVHS through their conduct and behavior. Students are expected to abide by all NUVHS policies and regulations. Any form of academic dishonesty, or inappropriate conduct by students or applicants may result in penalties ranging from warning to dismissal, as deemed appropriate by NUVHS.

Communication

Throughout this course students will need to be in close contact with their instructor and fellow students. Students are expected to communicate via course message and electronic discussion boards. Therefore, students should plan on checking their course messages at least three times a week and participate in the discussion boards during the weeks they are live.

Instructors strongly encourage and welcome open communication. Clear, consistent, and proactive communication will ensure a successful experience in this course. It is the student's responsibility to notify the instructor immediately if and when a personal situation occurs that affects his/her performance in this class. Being proactive with communication will result in a quick solution to any problems that may occur.

COURSE OUTLINE

Unit 1: Introduction to Forensic Science

Blood, fingerprints, tire tracks, and trace evidence are used to catch the criminals in TV, but how do real life forensic scientists help identify suspects? In this unit, you will be introduced to forensic science. We will discuss what forensic science consists of and how the field developed through history. You will learn about some of the responsibilities of forensic scientists and about some of the specialty areas that forensic scientists may work in.

Learning Objectives

- Learn about forensic science as a field of study.
- Discuss the history and development of the field of forensic science.
- Examine some of the responsibilities that forensic scientists have in their work.
- Investigate the relationship between forensic science and the criminal justice system.
- Explore some of the specialty areas within forensic science.

Activities

Unit 1 Text Questions	Homework	10 points
Unit 1 Online Lab Questions	Homework	10 points
Unit 1 Discussion Assignment 1	Discussion	5 points
Unit 1 Discussion Assignment 2	Discussion	5 points
Unit 1 Quiz	Quiz	15 points

Unit 2: The Crime Scene

Once a crime has been committed, one of the first steps for the forensic scientist is the identification and collection of evidence. In this unit, you will discover some of the techniques and practices that forensic scientists and law enforcement officials use to identify evidence and collect that evidence in a way that maintains the integrity of the evidence. You will also learn about some of the different types of evidence that might be found at a crime scene and how the different types of evidence may best be handled.

Learning Objectives

- Discover how a crime scene is secured.
- Examine the different ways in which a crime scene is recorded.
- Learn how forensic scientists and officers search a crime scene for evidence.
- Investigate how evidence is collected and packaged.
- Learn why evidence needs to be collected carefully and within legal guidelines.

Activities

Unit 2 Text Questions	Homework	10 points
Unit 2 Online Lab Questions	Homework	10 points
Unit 2 Discussion Assignment 1	Discussion	5 points
Unit 2 Discussion Assignment 2	Discussion	5 points
Unit 2 Quiz	Quiz	15 points

Unit 3: Physical Evidence

In this unit, we will discuss the physical evidence found at crime scenes. In doing so, we will examine the different types of evidence that are used in a crime investigation and in court trials. We will also discuss how forensic scientists and investigators identify and collect evidence. Finally, we will look at some specific examples of physical evidence, including glass, soil, and impressions, to see how forensic scientists identify and analyze these types of evidence.

Learning Objectives

- Learn about the different types of evidence.
- Examine the difference between individual and class characteristics and what they mean for crime investigations.
- Discuss how physical and chemical properties help forensic scientists compare samples.
- Investigate glass fragments and soil as physical evidence and what they can tell forensic scientists about a crime.
- Discuss how impressions, like footprints and tire tracks, are collected and analyzed.

Activities

Unit 3 Text Questions	Homework	10 points
Unit 3 Online Lab Questions	Homework	10 points
Unit 3 Discussion Assignment 1	Discussion	5 points
Unit 3 Discussion Assignment 2	Discussion	5 points
Unit 3 Quiz	Quiz	15 points

Unit 4: Hair, Blood, and Fingerprints

In this unit, we will examine three potentially important types of physical evidence: hair, blood, and fingerprints. For each of these types of evidence, we will look at how the evidence may be collected and how the evidence might be tested. We will also discuss some of the challenges in examining these types of evidence and what we might learn from them.

Learning Objectives

- Learn about the physical structures of hair, blood, and fingerprints.
- Discuss how DNA can be found in hair collected from crime scenes.
- Investigate how stains are tested to determine if they are blood and if they are human blood.
- Learn about the different types of fingerprints.
- Examine how fingerprints are discovered and collected at a crime scene.

Activities

Unit 4 Text Questions	Homework	10 points
Unit 4 Online Lab Questions	Homework	10 points
Unit 4 Discussion Assignment 1	Discussion	5 points
Unit 4 Discussion Assignment 2	Discussion	5 points
Unit 4 Quiz	Quiz	15 points

Unit 4: Hair, Blood, and Fingerprints (Continued)

Midterm Exam Objectives

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from the first four units in this course (Note: You will be able to open this exam only one time.)

Midterm Exam Activities

Midterm Discussion	Discussion	5 points
Midterm Exam	Exam	50 points

Unit 5: Firearms and Tool Marks

In this unit, we will discuss the collection and analysis of firearm and tool evidence. We will learn some of the considerations in collecting this type of evidence. We will also examine what information forensic scientists can learn from evidence like firearms, bullets, gunpowder residue, and tool marks that are left at a crime scene. Finally, we will discuss under what conditions individual characteristics might be found on these types of evidence.

Learning Objectives

- Discuss how firearm and bullet evidence is collected from a crime scene.
- Learn why bullets fired from a gun can contain unique markings and striations.
- Examine how investigators can estimate the distance between a gun and a shooting victim.
- Investigate what information forensic scientists can learn from tool marks.
- Discuss how forensic scientists can recover serial numbers from firearms and vehicles.

Activities

Unit 5 Text Questions	Homework	10 points
Unit 5 Online Lab Questions	Homework	10 points
Unit 5 Discussion Assignment 1	Discussion	5 points
Unit 5 Discussion Assignment 2	Discussion	5 points
Unit 5 Quiz	Quiz	15 points

Unit 6: Humans Remains

In this unit, you will learn more about how forensic scientists examine human remains and gain information from these remains. We will discuss some of the ways that forensic scientists try to determine the time of death for recovered human remains. We will also discuss how forensic scientists make use of the forensic autopsy to gain more information about a probable cause of death and mechanism of death. Finally, we will discuss what scientists can learn about the condition of bones found at a crime scene and some of the ongoing research by forensic scientists to learn more about rates of decomposition.

Learning Objectives

- Investigate some of the ways that can help determine the time of death.
- Learn about some different ways that bodies may decompose.
- Discuss what forensic scientists can learn from a forensic autopsy.
- Examine what information can be gained from skeletal remains.
- Learn about ongoing research into decomposition rates.

Activities

Unit 6 Text Questions	Homework	10 points
Unit 6 Online Lab Questions	Homework	10 points
Unit 6 Discussion Assignment 1	Discussion	5 points
Unit 6 Discussion Assignment 2	Discussion	5 points
Unit 6 Quiz	Quiz	15 points

Unit 7: DNA Evidence

In this unit, we will discuss what DNA is and how it is used as evidence in crime investigations. We will examine the basic components of DNA and learn what makes the DNA of each person unique. The unit will also discuss how biological evidence, like blood or hair samples, is preserved for DNA testing. Finally, we will examine the use of DNA evidence in court cases and some of the considerations that occur in these cases.

Learning Objectives

- Learn about the properties of DNA.
- Examine how and why DNA can be used as an individual characteristic in forensic science.
- Investigate how biological evidence is best collected and preserved for DNA testing.
- Discuss what tests are used on biological evidence to retrieve DNA information.
- Examine some of the considerations in using DNA in court trials.

Activities

Unit 7 Text Questions	Homework	10 points
Unit 7 Online Lab Questions	Homework	10 points
Unit 7 Discussion Assignment 1	Discussion	5 points
Unit 7 Discussion Assignment 2	Discussion	5 points
Unit 7 Quiz	Quiz	15 points

Unit 8: Arson and Explosion Evidence

In this unit, we will discuss how forensic science approaches crime scenes in which fire or explosions have occurred. In doing so, we will learn about the challenges that these crime scenes present in the collection of evidence, the methods used to determine the point of ignition, and how evidence is collected and preserved at arson scenes. We will also examine some of the different types of explosives and how explosive materials are collected and preserved.

Learning Objectives

- Discuss what challenges arson and explosion crime scenes present in the collection, preservation, and analysis of evidence.
- Learn how investigators determine where a fire started and whether accelerants were used.
- Examine the different types of explosive materials that may be used in bombs and other explosions.
- Investigate how evidence at an arson scene is collected and tested.
- Discuss the methods used to test for explosive materials at crime scenes.

Activities

Unit 8 Text Questions	Homework	10 points
Unit 8 Online Lab Questions	Homework	10 points
Unit 8 Discussion Assignment 1	Discussion	5 points
Unit 8 Discussion Assignment 2	Discussion	5 points
Unit 8 Quiz	Quiz	15 points

Unit 8: Religion: What We Believe (Continued)

Final Exam Objectives

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from units five to eight in this course – the last four units. (Note: You will be able to open this exam only one time.)

Final Exam Activities

Class Reflection Discussion	Discussion	10 points
Final Exam	Exam	50 points

HOW YOU WILL BE GRADED

For critical thinking questions, there are no right or wrong answers. For example, a question on your thoughts on why you think people are shy is a pretty open-ended type of question. Grades will be based on the depth of personal insight you present. **Do not simply agree or disagree** with an insight question. We are looking for critical thinking and possibly a related personal experience with the question.

It is important to provide detailed answers for insight/opinion questions.

For review questions, you should be produce a more academic answer. For example, "What two categories are norms divided into?" This type of direct question requires a specific answer. Please use full sentences and proper grammar.

When submitting paragraphs, use these guidelines.

1. The first, second or last sentence contains the main idea and key words from the question or assigned topic.
2. Paragraph contains one to three explanatory sentences.
3. Paragraph contains two to four sentences about specific details related to question.
4. Details are colorful, interesting and appropriate.
5. Paragraph ends with a good closing sentence that refers to the main idea without repeating it.
6. Free of spelling and grammatical errors.

GRADE SCALE

The following grading scale will be used to determine your final letter grade.

Letter Grade	Percentage Earned
A	95%+
A-	90% - 94.9%
B+	87% - 89.9%
B	84% - 86.9%
B-	80% - 83.9%
C+	77% - 79.9%
C	74% - 76.9%
C-	70% - 73.9%
D+	67% - 69.9%
D	64% - 66.9%
D -	60% - 63.9%
F	59% and lower

SUPPORT

At NUVHS you will have access to multiple support teams. Who you contact will depend on the questions you have. Always start by contacting your teacher through the Message Center in the course. Your teacher should be able to answer your question, but if they can't, then they will direct you to another support team. If you have questions about any of the course content, your grades, or course policies, you should contact your instructor.

For questions about your enrollment, transcripts, or general school-wide policies, you can contact **NUVHS Student Services** at info@nuvhs.org or by phone at 866.366.8847. For example, if you would like to withdraw from your course, you should contact Student Services. Please note that a refund for your course can only be obtained if you drop within the first seven days of enrolling in the course.

For help with login/password issues, or other technical issues specific to the Blackboard website, you can contact the team at National University Blackboard Learn. They can also be reached by phone at (888) 892-9095.

EXPECTED SCHOOL-WIDE LEARNING RESULTS (ESLRs)

Engaged Learners

- Demonstrate self-directed learning skills such as time management, and personal responsibility through the completion of course requirements
- Develop an understanding of their own preferred learning styles to enhance their overall academic potential
- Incorporate effective and relevant internet and multimedia resources in their learning process to broaden their knowledge base

Critical Thinkers

- Effectively analyze and articulate sound opinions on a variety of complex concepts
- Illustrate a variety of problem-solving strategies that strengthen college preparation and workforce readiness
- Formulate a framework for applying a variety of technology and internet-based research to enhance information literacy and collaborative thinking

Effective Communicators

- Demonstrate awareness and sensitivity to tone and voice in multiple forms of communication
- Express concepts and ideas in a variety of forms
- Enhance communication skills through the use of media rich or other technology resources

Global Citizens

- Appreciate the value of diversity
- Understand the range of local and international issues facing today's global community
- Demonstrate awareness of the importance of cultural sensitivity and social responsibility in the 21st century