

Forensic Science II: More Secrets of the Dead

COURSE DESCRIPTION

Forensic Science II: More Secrets of the Dead

Although the crime scene represents the first step in solving crimes through forensic science, the crime laboratory plays a critical role in the analysis of evidence. This course focuses on the analysis of evidence and testing that takes place within this setting. We will examine some of the basic scientific principles and knowledge that guides forensic laboratory processes, such as those testing DNA, toxicology, and material analysis. Techniques such as microscopy, chromatography, odontology, entomology, mineralogy, and spectroscopy will be examined.

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: Drug Evidence

The illegal drug trade has been a major concern within North America for law enforcement and the criminal justice system. It is not surprising, then, that this area also presents a major area for forensic science. Forensic scientists play an important role in investigating and solving drug cases. Not only do they help to identify whether illegal drugs are present at a crime scene, but they also help identify the particular drugs and how they may have been involved in different crimes. In this unit, we will examine some of the different types of illegal drugs that forensic scientists often deal with and learn about some of the laboratory tests that are used to identify drugs.

Learning Objectives

- Identify some of the different types of drugs and their effects.
- Describe some of the common ways that samples can be taken from humans to test for drugs.
- Consider some of the issues in collecting and preserving drug evidence.
- Discuss screening tests and their uses in criminal investigations.
- Discuss confirmatory tests and their uses in criminal investigations.

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: Forgeries & Document Examination

During crime investigations, forensic scientists may be called upon to determine whether a paper, signature, or other created document is authentic or whether it is fake. In this unit, we will examine the area of document examination. Document examination may include comparing the handwriting of several samples, linking documents to the particular machines that created them, and identifying counterfeit papers and money. We will discuss some of the aspects that document examiners look for in comparing documents and some of the techniques they use to find alterations in documents.

Learning Objectives

- Talk about questioned documents and exemplars.
- Describe some of the aspects that document examiners use to compare handwriting.
- Understand some of the aspects that document examiners use to compare typescript.
- Discuss some of the ways that document alterations can be found.
- Discuss how document examiners find forgeries and counterfeit materials.

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: Forensic Toxicology

Arsenic, cyanide, and strychnine have all been used to try to harm other individuals throughout the course of history. Although poisoning may not be the most common way of trying to kill someone, it does happen, and forensic scientists play an important role in determining what has occurred. In this unit, we will explore some of the poisonous substances that exist and how forensic scientists test for and identify poisons.

Learning Objectives

- Discuss the history of forensic toxicology.
- Name some poisonous substances that have been used in history.
- Discuss techniques used by forensic scientists to identify poisons and other toxins.
- Describe what makes some toxic substances popular for trying to harm others.
- Understand the role of toxicologists in criminal investigations.

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: Paint, Soil, & Trace Evidence

Trace evidence left at a crime scene can yield important clues about the victim, perpetrator, and the crime scene. In this unit, we will examine some of the trace forms of evidence that forensic scientists may use to help them solve crimes. These may include paint chips, pieces of metal, soil, and so on. In doing so, we will examine some of the techniques that forensic scientists use to identify and compare these pieces of evidence.

Learning Objectives

- Describe the different types of microscopes used in the forensic laboratory.
- Discuss how paint and fiber evidence is collected.
- Discuss some of the techniques used to test and compare paint and fiber evidence.
- Discuss polymers and their role in synthetic fibers.
- Understand what comparisons between fiber and paint evidence and known samples can tell forensic scientists.

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: Paint, Soil, & Trace Evidence (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: Forensic Entomology

In some criminal investigations, forensic scientists examine insects and other arthropods. In this unit, we will explore the area of forensic entomology and its use in criminal investigations. We will learn about the history of forensic entomology and the types of insects commonly encountered in crime investigations. We will also examine some of the tests and techniques used to study the insects.

Learning Objectives

- Define forensic entomology and its uses.
- Discuss the history of forensic entomology.
- Discuss what insects and arthropods are common pieces of evidence in criminal investigations.
- Describe some of the tests used in forensic entomology.
- Understand studies into insect activity as they related to forensic science.

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: Forensic Anthropology

Bodies, bones, and teeth can provide investigators with important information about how someone died. In this unit, we will explore the areas of forensic anthropology and facial reconstruction. We will consider some of the aspects that forensic scientists look for when examining bodies and skeletons.

Learning Objectives

- Discuss the areas of forensic anthropology and forensic odontology.
- Outline the history of forensic anthropology and odontology.
- Describe some of the characteristics of bones and teeth that provide forensic scientists with information about the person.
- Describe some of the tests used in the area of forensic anthropology.
- Understand the use of forensic anthropology in the criminal justice system.

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: Digital Evidence

Computers are increasingly playing an important role not only in our daily lives, but also in the area of criminal investigation. In this unit, we will learn about the evidence that can be gained from computers and other electronic devices. We will consider how information can be retrieved from computers and how computer evidence should be preserved.

Learning Objectives

- Understand the different parts of computers.
- Discuss the areas of a computer where information can be retrieved.
- Analyze how computer evidence can be collected and preserved.
- Describe the different types of data available on computers.
- Discuss the use of forensic images.

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: The Future of Forensic Science

As technology has changed and advanced so too has the area of forensic science. In this unit, we will consider how computers are being used in forensic investigations. We will look at how forensic scientists retrieve web-based information as evidence and investigate the problem of hacking. We will learn more about some of the databases that forensic scientists use in their work. We will also examine what the future of forensic science may hold and how crime investigation is likely to change.

Learning Objectives

- Discuss how computers are being used in forensic science.
- Discuss some of the recent advances in forensic techniques and testing.
- Analyze how advances in other disciplines impact forensic science.
- Understand some current limitations of forensic science investigations.
- Discuss some of the possible future changes in forensic science.

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: The Future of Forensic Science (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 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