



## Forensic Science II: More Secrets of the Dead

### Course Outline

#### Course Overview

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 Content and Suggested Timelines

The suggested timeline is for students aiming to complete the course in one semester (5 months). Double the timeframes for two semesters (10 months).

##### **Unit 1: Drug Evidence** (Suggested time: 2 weeks)

In this unit, you will learn about the different types of drugs, common ways to test for drugs, collecting evidence, screening and confirmatory tests used when drugs are involved in a crime scene.

##### **Unit 2: Forgeries and Document Examination** (Suggested time: 2.5 weeks)

You will learn about questioned documents and exemplars, aspects to comparing handwriting, comparing typescript, document alterations and how document examiners find forgeries and counterfeit materials.

##### **Unit 3: Forensic Toxicology** (Suggested time: 2 weeks)

You will learn about poisonous substances that have been used in crimes throughout history. How these poisons are absorbed and transmitted through the body, techniques used to identify these poisons, and their collection.

##### **Unit 4: Paint, Soil, and Other Trace Evidence** (Suggested time: 2.5 weeks)

How protons, neutrons, electrons and other aspects are used by forensic scientists to study trace evidence. You will also learn how this trace evidence is used in investigating crimes, different kinds of microscopes and tests used to identify and compare trace evidence.

**Unit 5: Forensic Entomology** (Suggested time: 2 weeks)

You will learn the definition of forensic entomology, its history, common insects and arthropods used during investigations, tests used and how insect activity relates to forensic science.

**Unit 6: Forensic Anthropology** (Suggested time: 2.5 weeks)

You will investigate areas of forensic anthropology and odontology, including its history. You will consider some of the characteristics of bones and teeth forensic scientists look at. What tests are used in forensic anthropology and how it can be used in the criminal justice system..

**Unit 7: Digital Evidence** (Suggested time: 2 weeks)

By the end of this unit you will be able to understand the different parts to a computer, areas of computers where information can be retrieved, how internet activity can be traced, how emails and other aspects can be traced and examined, and how computer evidence can be collected and preserved.

**Unit 8: The Future of Forensic Science** (Suggested time: 2.5 weeks)

We will discuss how computers are being used in forensic science, recent advances in techniques and testing, how other disciplines may impact it, limitations and possible future changes in forensic science.

### Course Materials

There is no textbook for this course as all resources are found directly in the course itself.

### Assessment Information

Text Questions: 20%

Lab Assignments: 20%

Discussion Questions: 20%

Unit Quizzes: 20%

Exams: 20%

**Review Questions and Laboratory Assignments**

Successful students will demonstrate their learning by answering questions that are taken directly from the course materials. Additional research is not a bad idea if you want to add additional examples but when you do, please include sources and links to materials your teacher can view.

Learning demonstrated in the Critical Thinking questions should combine prior knowledge, new information and opinions. Students should define terms in their answers, recount case evidence thoroughly, demonstrate an understanding of the Forensic Science (including any history or anthropology) that is used to make determinations, and the way the science is applied to the problems/cases.

It will be difficult for you to do this with less than a paragraph.

### **Discussion Questions**

Successful discussion answers will take the questions posed and use critical thinking to address the subject. Some research can help to answer the question, and examples are always a good idea. Understanding the unit materials and careful consideration of your own personal strengths as it relates to the career will also help.

### **Unit Quizzes**

Students will complete a timed quiz at the end of each unit. A study focus on theories, ideas, people and the language used in Forensic Science will ensure success.

### **Midterm Exam and Final Exam**

The midterm exam focuses on the learning outcomes of the first four units of the course. The final exam focuses on the learning outcomes of the last four units of the course.

### **When students are not meeting the learning outcomes/falling behind**

When students fall behind the expected pace or plan, they will be contacted via email or phone and if there is no improvement or response, parents will also be contacted. If deemed necessary, contact with the student home school may also occur to help determine a solution.

Students are expected to let the course teacher know when they are struggling with course content. In response, the course teacher will provide appropriate help or strategies to support learning. The course teacher will also provide feedback on course work to support learning and help students improve. Parents will be made aware if their child is actively working but struggling to meet the learning outcomes of the course.

Students falling behind in a manner where it does not appear that they will complete the course within a year will be sent reminder emails. Without a response or renewed efforts in the course, the student may be assigned an F or withdrawn. Should they begin actively working in the course, the student may be given an alternate completion date.

### **Expectations**

- Adhere to the EBUS Academic
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Integrity Policy Contact your teacher when help is needed

- Review feedback from assignments and tests, where applicable
- Work to complete the course in a timely manner
- Communicate respectfully
- Review weekly progress reports

### Reporting to Parents:

There are 4 term report cards that can be downloaded from the student dashboard. A notice will go out when these report cards are available.

Every week that EBUS is in Session the teacher will send out a progress report showing the student's progress.

### Contacting Your Teacher:

Your teacher will be available Monday- Friday during regular school hours. If you are having trouble with any concepts, please contact your teacher right away!

Your teacher for this course is:

Julie Macdonald

[jmacdonald@sd91.bc.ca](mailto:jmacdonald@sd91.bc.ca)

1 800 567 1236 ext 2246