

# **Advanced Forensic Investigative Techniques: Estimating Time and Location of Death**

**This is a self-paced class with continuous enrollment.**

**Cost: \$25.00**

Knowing all the possible ways to correctly determine the time of death can be critical to the success of any death investigation. The accuracy of this determination can make it possible to identify and eliminate suspects in a homicide, help determine cause and manner of death, and establish patterns of inheritance. All told, it is one of the most valuable and essential of all forensic tools.

Unfortunately, determination of time of death is the nemesis of many death investigators. This course describes methods that can be used at any stage of the decomposition process, ranging from those who have been dead for minutes, to those dead for days, months, years, and even centuries. In addition, it provides an overview of the many types of forensic experts available to assist in the time and location of death determination. With each lesson, students will follow the investigation of actual cases, answering a series of questions on each.

## **Course Requirements:**

No prerequisites; no text book purchase is required. The student is expected to read all 10 lessons. In addition, there are assignments, case studies, and online exercises to perform in order to get the most benefit from this course. Students need only paper, pencil and a calculator.

**WARNING:** Some material presented in this class is of a graphic nature and may be offensive to some students. Viewer discretion is advised.

## **The course will deal at length with the following Topics:**

Lesson 1 – Rigor, Algor, and Livor Mortis

- The Early Postmortem Period (Hours)

- The Intermediate Postmortem Interval (Days to Weeks)

- The Late Postmortem Interval (Months to Years)

Lesson 2 – Estimating Time of Death with Forensic Entomology

- What Is Forensic Entomology?

- Estimating Time of Death with Forensic Entomology

- Estimating Age of Blowfly Eggs, Larvae, Pupae, and Adults

- Time of Death Calculations

- Determining Cause of Death with Forensic Entomology

- Was the Deceased Moved Postmortem?

- Collecting and Analyzing Entomological Evidence from the Scene

- Tracking Contraband

- The Various Insects that May Be Found in the Decomposition Process

Analyzing the Crime Scene for Entomological Evidence  
Other Uses for Insects in Forensic Science

Lesson 3 – Estimating Time & Location of Death with Forensic Botany

What is Forensic Botany?

Determining Time Elapsed Since Death

Microscopic Analysis of Stomach Contents

Using Knowledge of Plant Ecology to Determine Location of Death

Plant DNA Testing as a Means to Determine Location of Death

Trace Alkaloids and Stable-Isotope Ratios

Diatoms and Determination of Drowning

Has the Body Been Moved Postmortem?

Dendrochronology as a Determinant of Time of Death

Lesson 4 – Estimating Time & Location of Death with Forensic Palynology

What is Forensic Palynology?

Pollen Rain

The Theories Behind Forensic Palynology

The Various Modes of Pollination and Their Relative Forensic Value

Possible Sources of Pollen Evidence

What Should Be Sampled at a Crime Scene?

Forensic Palynology to Determine Location of Death

Using Palynology to Link A Suspect to the Crime Scene

Lesson 5 – Forensic Geology

What is Forensic Geology?

The History of Forensic Geology

The Uses of Forensic Geology

The Earth as Evidence

Evidence Forensic Geologists Look for at Crime Scenes

Collecting Forensic Geological Evidence at Crime Scenes

Detection of Underground Anomalies with Geophysics

Lesson 6 – Forensic Anthropology, Taphonomy, and Archaeology

What is Forensic Anthropology?

What is Forensic Taphonomy?

What is Forensic Archaeology?

Surface Remains in the Out-of-Doors

The Role of the Elements in Decomposition

The Role of Scavengers and Other Animals

The Search for Evidence at an Outdoor Crime Scene

Locating the Body

Recovering the Remains

<sup>13</sup>C and <sup>15</sup>N Analysis to Determine Diet of Deceased

Lesson 7 – Locating Clandestine Graves

- What Are Clandestine Graves?
- What Constitutes a 'Clandestine Grave'?
- Searching for a Clandestine Grave
- What Signs Might Indicate a Clandestine Grave
- Locating the Remains
- Exhumations from Clandestine Graves
- Carrying Out the Exhumation
- Removal of the Remains
- Estimated Time Elapsed Since Burial

#### Lesson 8 – NecroSearch International

- What is NecroSearch?
- Project PIG
- The Scientific Method and Terminology
- The Tools of the Trade
- Advantages and Disadvantages of the Methods Used

#### Lesson 9 – Estimating Time of Death with Decomposition Chemistry

- The Forensic Anthropology Research Center – AKA the Body Farm
- What is Decomposition Chemistry?
- How Long Does Decomposition Take?
- Microorganisms and Decomposition
- Why Study Human Decomposition?
- What Features Are Used to Calculate the Postmortem Interval?
- Cumulative Degree-Days (CDD) and Hours (CDH)
- Present Status of Decomposition Chemistry

#### Lesson 10 – Ante-, Peri-, & Postmortem Injuries & Carbon-Dating Techniques

- How Does One Recognize Antemortem Injuries?
- How Does One Recognize Perimortem Injuries?
- How Does One Recognize Postmortem Injuries?
- Determining Time since Death Using <sup>14</sup>C Dating Techniques

#### **Grading Policy**

- A = 100 - 90
- B = 89 - 80
- C = 79 - 70
- D = 69 - 60
- F = 59 - Below

**Students have the opportunity to purchase certificates upon successful completion of the course.**

**This course is worth 2 Continuing Education Units (2 CEUs)**

- A score of 90% and above entitles the student to purchase a **Certificate of Academic Excellence**
- A score of 80-89% entitles the student to purchase a **Certificate of Merit**
- A score of 75% entitles the student to purchase a **Certificate of Appreciation**

**Certificates cost \$25 and can be purchased after completion of the course.**

### **Disclaimer**

This class is for informational or refresher purposes, not certification. It cannot be substituted for any state, government, licensing, or educational requirements.

### **Questions?**

Contact me prior to enrollment at [webbycyberclasses@yahoo.com](mailto:webbycyberclasses@yahoo.com)