



### **B165 Teaching Ethics in Forensic Science: A Laboratory Approach**

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After attending this presentation, attendees will be informed of other methods by which a traditional lecture-based and discussion-based subject may be presented in an alternate format that emphasizes creativity and laboratory skills that may be applied to novel applications. Suggestions for laboratory practicals involving a variety of true-to-life ethical dilemmas that one may face in a laboratory environment will be presented, in addition to suggestions for active learning.

This presentation will impact the forensic science community by examining real-world ethical dilemmas and constructing a case scenario around them that would lead to guided discussion, creative problem solving, and laboratory-based principles to help resolve some of the issues addressed. Such an approach will involve looking at underlying motivation, methods for accomplishing deceptive practices in forensic practice, and utilizing methods to uncover them.

This proposed class is designed to integrate the teaching of ethics into a forensic chemistry major at the undergraduate or graduate level. Expanding on an existing one-unit special-topics class dealing with ethics in a forensic science setting to a three-unit semester class will involve laboratory and case study sessions along the lines of: (1) production, examination, and detection of forged fingerprints and footwear lifts; (2) detection of altered and fraudulent photographs in scientific journals; (3) detection of misrepresentation in photographs; (4) questioned document examination of altered laboratory notes, such as examination of interlineations, examination and decipherment of obliterations, altered ink entries (Infrared (IR) luminescence and fluorescence), and Electrostatic Detection Apparatus (ESDA) methods for the examination of indented writing); (5) development of protocols for the detection of planted crime scene evidence; (6) preparation of simulated historical documents accompanied by artificial aging methods; (7) evaluation of court displays and other demonstrative evidence; (8) obtaining background information on opposing expert witnesses — evaluation of resumes; (9) critical examination of court transcripts; (10) dry labbing — work flow, time management, supervision issues, and quality assurance methods to aid in its detection; and, (11) ethics tool kits — establishing guidelines for ethical decision making, personal and general, and the development of decision-making processes for different ethical dilemmas.

In addition to the lab practical's, the course will incorporate homework and discussion topics centering around ethical case studies and common ethical situations that may occur in a laboratory setting. Using creative problem-solving methods, students will brainstorm and develop methods to falsify evidence, detect various types of altered evidence, and develop methods to challenge questionable evidence.<sup>1</sup>

#### **Reference(s):**

1. Isaksen, Scott G., Dorval, K. Brian, and Treffinger, Donald J. (2000). *Creative Approaches to Problem Solving: A Framework for Change*. New York, NY: Kent/Hunt Publishing Company.

#### **Education, Ethics, Applied Learning**