D61 Investigating Forensic Science Laboratory as an Undergraduate Student

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After attending this presentation, attendees will: (1) learn basic laboratory exercises that can be used in an introductory forensic science laboratory college course; (2) be able to teach students simple methods used to analyze a variety of forensic evidence; and, (3) understand the comparison of students' learning objectives throughout the course from day one to the final exam.

This presentation will impact the forensic community by showing specific laboratory exercises being developed and offered to students in undergraduate forensic science programs and courses.

With all the popular criminal investigation shows on television, most universities have seen an increase in interest of forensic science among students. Because of this increased interest in college students to pursue a degree in forensic science, many universities have either started to offer a series of forensic courses, develop a minor in forensic science within another degree, or created an entire forensic science program. Whichever the case, students come into these types of courses and programs with a media understanding of what forensic science is. This sometimes results in students changing their viewpoint on what forensic science really is and if this type of career is the right choice for them. Universities with forensic science programs have realized that being an accredited program is an important aspect for incoming freshman and the surrounding forensic community. Ensuring all forensic science degrees offer the same type of coursework is reassuring for crime laboratory directors and the students. Over the past year, nine universities in the United States received Forensic Science Education Programs Accreditation Commission (FEPAC) accreditation bringing the total to 38 accredited programs. FEPAC guidelines do not require forensic laboratory coursework until students are well advanced in their studies, such as 300 or 400 level courses. General science introductory courses are required and it is assumed that students will gain a basic laboratory experience. The addition of an introductory forensic laboratory course will aid in the student basic knowledge and understanding of the role of the forensic scientist in the criminal justice system. The ability to have students be able to perform hands on laboratory exercises at an introductory level will help them better understand how forensic evidence is analyzed in a laboratory. This would be a stand-alone laboratory course with no congruent lecture. This will allow students to focus on the science behind the forensic science. All types of evidence would be analyzed at a very basic level, including crime scene investigation, pattern recognition, physical matches, impression comparison, serology, blood spatter, DNA analysis, chemical examination with explosives, illicit drugs, and inks, as well as trace evidence with hair and fiber examinations. Current laboratory manuals are available, however, offer a more advanced examination of these types of evidence using instrumentation or needing to have an advanced knowledge of microscopy techniques. Development of a more basic forensic laboratory manual with exercises that are simple with no need of instrumental knowledge is needed. This will satisfy the need for students to engage in a forensic laboratory learning how forensic scientists identify, characterize, individualize, and compare evidence. Being at a more basic level, students will not need to have background knowledge of chemistry and biology to enroll in the course. All types of students will be able to participate in a basic general forensic science laboratory course and gain the same understanding and knowledge about what forensic science really is all about. Students will be surveyed at the beginning of the course about their background, including major and previously completed science courses and laboratories. Before and after each individual laboratory exercise, students will be questioned on the topic. This will show the increase in understanding of forensic laboratory analysis for each type of evidence. At the end of the course, students will be given a version of the introductory to forensic science lecture final; this will then be compared to the students only in the lecture format to discover if the same knowledge is attained on the material whether is a lecture setting or laboratory stand-alone course.

Forensic Education, Laboratory Exercises, Undergraduates

