D35 The Challenge of Teaching Bugs, Botany and Blood (DNA) in One Course

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Attendees will learn one approach to teaching quite dissimilar forensic topics to undergraduates in one course. It is presented to create dialogue with others teaching similar courses and hopefully create constructive criticisms on this course and other similar courses to increase the courses effectiveness. This presentation will provide one example on how to teach diverse biological topics in one course. It is presented to create dialogue with others teaching similar courses and hopefully create constructive criticisms on this and other similar courses.

This presentation outlines one of the four forensic courses taught in the Ferris State University (FSU) forensic undergraduate programs. The forensic biology degree builds on a major's foundation of biology and chemistry, with unique core courses in forensic biology, forensic chemistry, forensic human pathology, forensic DNA analysis and criminal justice courses in evidence and law. The degree is designed for the student who is interested in analyzing biological evidence as it relates to legal and other investigations, or collecting and processing evidence at a crime scene or in a laboratory.

Two of the courses taught in the forensic biology curriculum are also available for students in the Criminal Justice Forensic Minor Program and other curriculums such as psychology majors and allied health majors etc. The forensic biology course in this curriculum is the application of biological knowledge and laboratory and field techniques to criminal and civil investigations. Students in this course receive extensive training in the collection and analysis of biological evidence in both lab and field settings. Students learn how to evaluate mock crime scenes that include decomposition of animal remains in the field. They also learn how to document, collect, and analyze the insects, plants and other biological evidence to determine the time of death. Students learn to identify skeletal remains, and evaluate postmortem trauma by scavengers.

The problem in teaching this course is obvious. Students of mixed biological and chemistry backgrounds require the course be taught to give a delicate balance between background information and substance. Enough background to help the under prepared in biology and chemistry and enough substance to prepare the forensic biology majors and non majors alike to understand the meaning and importance of the biological evidence at the mock crime scenes.

The course has evolved over the seven years it has been taught to currently include three distinct areas of concentration, forensic botany, forensic entomology, and introduction to forensic DNA analysis. The course is lab oriented with lectures supporting the labs with background information. The laboratory periods for the botany and entomology are spent outside collecting the information at mock crime scenes and inside evaluating the information, writing reports, and predicting time of death. Five crime scene investigator teams collect the evidence with specific tasks at the mock crime scene. The students are grouped by dissimilar backgrounds by the instructor and the groups are shuffled for each lab period. This allows all students to be involved in all types of data collection. The groups enter their data on the computer and that data is available on the course web page. Students are required to turn in the mock crime reports every week. The DNA labs are conducted inside and are hands on labs.

This presentation is one example on how to teach such diverse topics in one course. It is presented to create dialogue with others teaching similar courses and hopefully create constructive criticisms on this and other similar courses. This course also does not claim to teach students enough information for them to become expert witness in any of the topics but to open their eyes to the possibility of the value of this data to an investigation.

Teaching, Botany, Entomology

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