

FIS 415 – Forensic Science and the Law

3 Credits

PROFESSORS: Linda Chezem and Joseph Bono

CLASS DAYS AND TIMES: Mondays 6pm to 8:50pm

OFFICE HOURS: Linda Chezem: Mondays, 5-6 pm and by appointment
Joseph Bono: Mondays, 5-6 pm and by appointment

COURSE DESCRIPTION: This course is required of all undergraduate students majoring in Forensic and Investigative Sciences. In this course we will explore the application of various laws and rules of evidence to the forensic sciences and how the admission of evidence derived from forensic sciences can impact the administration of justice in the United States. The forensic sciences refer to a group of subspecialties in science and medicine that can answer questions about legal issues, civil and criminal. They provide their knowledge to apply principles and methods of investigation to give facts and theories beyond those permitted to the lay witness. Forensic scientists include, but are not limited to; pathologists, psychiatrists, odontologists, engineers, anthropologists, toxicologists, molecular biologists, entomologists, and criminalists. Practitioners are finding themselves increasingly in demand in the courtroom as expert witnesses. What they testify to and how their “respective” sciences conform to the “Rules of Evidence” will be discussed. Hence, this course will be of value to a number of disciplines including those who are law trained.

REQUIRED TEXTS:

- Courtroom Handbook on Evidence (Robert L. Miller)
- Indiana Government by the People (available on line)

SUPPLEMENTAL TEXTS:

- TBA

JOURNAL / NEWS ARTICLES AND STUDENT PAPERS: See attached description

PAPER STYLE: To follow APA or Blue Book.

WHY IS THIS COURSE IMPORTANT FOR SCIENTISTS AND THE JUDICIARY?

For too many years, whenever a forensic scientist would testify, that testimony would be accepted with little questioning by either side in the courtroom. In the early to mid-1990s, that attitude began to change. There was recognition among attorneys (prosecution and defense) and judges that forensic scientists were not always right, and that their data, conclusions and reasons for those conclusions should be subjected to more scrutiny. Some “scientific methods” which had been used for years were about to be questioned in a way which was long overdue. In 1993, in the US Supreme Court case of

Daubert v. Merrill Dow Pharmaceutical, the standards for the admission of scientific testimony were changed from what had existed since 1923. The general acceptance principle of Frye v. United States was replaced by the relevancy and reliability standards of the Federal Rules of Evidence (Rule 702). This class will examine what this means for both the scientists and for members of the judiciary.

PRIMARY LEARNING OBJECTIVES

- Student will be able to apply the evidentiary rules and law of evidence in the collection of evidence, examination of the evidence, and preparation of scientific reports and testimony.
- Student will describe the kinds of evidence that require a scientific foundation for its admission.
- Student will demonstrate the ability to conduct accurate comprehensive and focused scientific investigations and apply appropriate rules of evidence.
- Student will interpret and implement standards of forensic practice as established by the rules of evidence.
- Student will apply knowledge of forensic science to case scenarios.

ADDITIONAL LEARNING OBJECTIVES

- Following the completion of course, the participants will be familiar with basic theoretical, practical and legal aspects of different techniques which include but are not limited to the following: friction ridge pattern examinations (fingerprints), questioned document examinations, firearm and toolmark examinations, fourier transform infrared spectrophotometry (FTIR), gas chromatography/mass spectroscopy (GC/MS), elemental analysis of forensic matrices with methods such as XRF, SEM-EDX, and ICP-MS.
- The participants will be able to conduct a critical evaluation of the limitations and capabilities of these techniques. When appropriate, these evaluations will include an understanding of sampling procedures, sample preparation methods, quality control, data analysis and interpretation of results. An evaluation of report writing and the possible effects of context effect and conformational bias will also be discussed.

TRAINING OBJECTIVES

- To teach students to understand the forensic scientist's role in the courtroom as an expert or factual witness or both.
- To teach students how to properly evaluate scientific reports for completeness, and determine if the data support the conclusion.
- To teach law students how to effectively conduct direct and cross examination of a forensic scientist/expert witness.

INSTRUCTIONAL METHODS: Use of lectures, class discussions, readings (in the form of case law, journals, textbooks, newspapers, Internet news), monitoring the IN General Assembly, and student presentations to acquaint you with a range of concepts, ideas, factors, and opinions relative to policy development, laws, and rules for the admission of

forensic science evidence. Class discussion is a central component of this course.

FULFILLING THE COURSE REQUIREMENTS WILL INCLUDE:

- Writing two exams
- Submitting four short reviews of professional journal articles and providing an in-class presentation on an evidentiary issue, law or a court's decision admitting a scientific opinion, applying a rule or law about forensic evidence derived from the reviews of the journals. [See attached Paper Submission description].
- Participating in class discussion
- Attending all classes
- Summarizing in writing two current news or journal articles about an evidentiary decision or law [see attached Journal Submission description]
- Evaluating a forensic science method currently used in laboratories looking for possible shortcomings based on the relevancy and reliability standards of Daubert.

ACADEMIC INTEGRITY POLICY: Cheating, plagiarism, submission of the work of others, etc. violates Purdue University and Indiana University policy on academic integrity and may result in penalties ranging from a lowered grade to course failure or expulsion. The applicable code is posted on the university web site.

EXAMINATIONS: There will be two exams. Dates to be determined.

ALL written work, exams, papers and reports are to be submitted electronically in Word or approved program to the three faculty members.

STUDENT EVALUATION:

Grading Scale:

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|-------------------------------------|--------|----|-------|-----|
| • Individual paper – 25 points | 100-98 | A+ | 77-74 | C+ |
| • 2 Journal Reports – 5 points each | 97-94 | A | 73-70 | C |
| • Paper Presentation - 5 points | 93-90 | A- | 69-66 | C - |
| • 2 exams - 25 points each | 89-86 | B+ | 65-62 | D |
| • Class discussion – 10 points | 85-82 | B | < 62 | F |
| | 81-78 | B- | | |

COURSE TOPICS

- Preparation for testimony, including review of reports, anticipation of likely defense and prosecution questions, and creation of a curriculum vitae, reference lists (e.g., of supporting articles and case rulings), and a summary of testifying experience
- Differences between an expert and a percipient or factual witness
- Use of documentation in court and avoidance of inappropriate language
- Potential outcomes/impact of expert testimony
- Court rulings in related cases
- Subpoenas: the process, including the differences between criminal and civil investigations and appropriate response procedures to subpoenas in each case, and

consequences of not sharing requested information or of subpoenaed individuals who do not show up for court

- Basic judicial process, including players' roles, legal terminology, and the differences between criminal and civil processes
- Proper behavior and appropriate attire in court
- Use of plain language to explain medical and forensic terms and processes
- Maintenance of an objective status
- Pretrial communication/contact with attorneys
- High-profile cases: effective approaches to dealing with these cases, potential impact of these cases on the field, and management of the stress of being involved in such a case
- Mock trial and other tools to demonstrate the judicial process and testimony skills

CLASS SCHEDULE

Week 1

Review of justice system

What is forensic science?

Recognition of the courtroom as an adversarial environment

The scientific method:

What is the scientific method?

Applying the scientific method to analyses which are not in the categorized as natural or physical

Understanding the differences between the thought and decision making processes of the natural scientist (forensic scientist) who works in the laboratory and the social scientist (members of the bar who work in a courtroom)

Week 2

Method validation

The use of methods which have been validated

Conformance to standards: What are acceptable standards.

Week 3

Report writing

What must a report contain?

Opinions and conclusions

Week 4

Standards for admissibility

Relevance and reliability

General acceptance

Examples of forensic science examinations and report writing

Different forensic specialties
What does the report say?
Where are the flaws?

Week 5

Methods which generate reviewable data (Drugs, DNA, fire debris, trace evidence)
Methods which generate reviewable images (Latent prints, documents and firearms/toolmarks)
Reviewability of scientific data
Objectivity v. subjectivity in formulating a scientific conclusion

Week 6

Context effect and conformational bias
Qualifications of the expert witness

Week 7

Demonstrative Evidence
The responsibility of the forensic scientist to understand how decisions are made in the court
The responsibility of the court to understand how decisions are made in the laboratory
Disclosure of all documents available in the laboratory – who makes the decision?

Week 8

Quality Assurance Standards in the Forensic Science laboratory
Accreditation
Certification

Week 9

Evaluating scientific data in the laboratory and in the courtroom
Evaluating scientific images in the courtroom

Week 10

Federal Rules of Evidence (Rule 702)

Week 11

Daubert, Kuhmo and Joiner [sp]
Rule 702

Week 12

Giglio issues
Brady

Week 13

Moot Court Sessions

Week 14
Moot Court Sessions