FIS 402 - Forensic Science II  
Course Description and Outline

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Office Hours  
TBD

Course Description  
Continuation of FIS401. Forensic identification of biological evidence including blood and other body fluids. Blood spatter pattern analysis.

Prerequisite Requirements:  
FIS205, FIS401. Open only to FIS majors.

Textbook and Reading Materials  
- Bevel & Gardner (2002), Bloodstain pattern analysis, 2nd Edition, CRC.  
- Additional readings in forensic biological evidence literature will be provided.

Course Content and Organization  
This course will introduce the concepts, theories and principles used in forensic identification of biological evidence. The course will cover the characterization of blood and other body fluids including the determination of whether a stain is blood and if it is human blood. The techniques applied in forensic identification of blood and other body fluids will be covered. Additionally, the blood spatter pattern analysis will be introduced. The analysis of blood spatter patterns will be studied with an emphasis on determining the type of spatter and the direction and angle from which the spatter was made.

Course Objectives  
At the end of this course, students should be able to:  
1. Determine is a stain is blood  
2. Determine if a blood stain is human  
3. Identification of other body fluids  
4. Determine the motion and directionality of blood spatter pattern  
5. Determine the point of convergence and the point of origin of blood spatter pattern
CLASS SCHEDULE

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPICS</th>
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| 1    | Introduction of biological evidence  
      | Laboratory and personal safety when dealing with forensic fluids and tissues |
| 2, 3, 4 | Bloodstain pattern evidence  
           | Determination of motion and directionality  
           | Determination of the point of convergence and the point of origin  
           | Blood stain patterns  
           | Bloodstain pattern analysis for reconstruction  
           | Impact spatter bloodstains |
| 5    | Biological evidence documentation and collection |
| 6, 7 | Identification of blood  
           | Presumptive tests for identification of blood  
           | Confirmatory tests for identification of blood  
           | Species identification |
| 8    | Pattern enhancement reagents |
| 9    | Identification of semen  
           | Presumptive tests for identification of semen  
           | Confirmatory tests for identification of semen |
| 10   | Identification of saliva |
| 11   | Identification of vaginal materials |
| 12, 13 | Identification of other body fluids |
| 14, 15 | Mock case evidence analysis |

LABORATORY EXERCISES:

Blood spatter patterns  
Identification of blood  
  Presumptive test  
  Confirmatory test  
  Species test  
Pattern enhancement for bloody evidence with fluorescence and luminescence  
Identification of semen  
  Visual examination  
  Presumptive test  
  Confirmative test  
  Spermatozoa identification  
Identification of saliva  
  Visual examination  
  Presumptive test