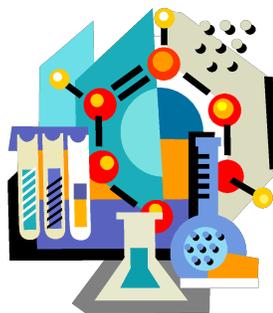


# SYLLABUS

## Introduction to the Chemistry of Forensics



**CHEM 500**  
**University of Saint Francis**  
**Course Syllabus**  
**Summer 2018, Dates: 5/7-6/29 2018**

### Online

**Instructor:** Melissa Willard, Ph.D.

**Email:** [MWillard@sf.edu](mailto:MWillard@sf.edu)

**Office Hours:** By appointment

### Required Materials

1. Criminalistics: An Introduction to Forensic Science by Richard Saferstein
2. Access to MyCJLab  
(Both 1 (eText) and 2 can be purchased together, ISBN-13: 9780133482034; Pearson)
3. Access to a home kitchen or highschool laboratory

(If access to typical highschool chemistry lab is not available, laboratories using just a home kitchen are also available or there is an option to purchase a forensic science kit.)

### Provided Materials

- Illustrated Guide to Home Forensic Science Experiments; Robert Thompson 2012

**Overview:** Introduction to the methods, analyses, and challenges of forensic science evidence from an underlying chemical perspective. Among the topics investigated are drug, hair, fiber, soil, glass, and arson. The course is composed of individual readings, case study analysis and discussions, a home laboratory component, and an interactive mock crime scene component; providing an overview of the investigative process from collection of evidence, through analysis, data interpretation, and presentation of results in a mock courtroom

setting. The course is designed to give an introduction to the chemistry of forensics, as well as provide a tool for existing teachers to enhance new or existing chemistry or forensic chemistry classes.

**Course goals:**

- Understand chemical principles and concepts underlying forensic evidence collection and analysis
- Develop problem solving skills and critical thinking
- Improve scientific communication skills

**Course format:** The majority of contact will be through Canvas. Assignments, laboratories, final project information, case studies, and resources will be located on Canvas.

**Expectations:** This is a graduate level course. As such, it is expected you are to: (1) be independent learners; (2) demonstrate critical thinking (3) use literature to support your arguments and reasoning; and (4) properly cite your work.

**Evaluation:** Grades will be based on Case Studies and Critical Thinking Assignments (20%), Laboratory (30%), Chapter Exams (20%) and a Crime Scene Case File Final Project (30%). The grading scale is given below:

**Grades**

100-93	A
92.9-90	A-
89.9-87	B+
86.9-83	B
82.9-80	B-
79.9-77	C+
76.9-73	C
72.9-70	C-
69.9-60	D
below 60	F

**Course outline:** A tentative outline is provided below. Class interest and background will be evaluated the first week and topics may be added or removed to tailor to the class. A detailed outline and detailed descriptions and instructions of assignments are given on Canvas.

WEEK	TOPIC
Week 1	• The Crime Scene, Physical Evidence, Bloodstain Pattern Analysis
Week 2	• Fingerprints
Week 3	• Matter, Light, and Glass Examination
Week 4	• Trace I (Hairs and Fibers)
Week 5	• Drugs and Toxicology
Week 6	• Trace II (Metals, Paint, and Soil)
Week 7	• Arson
Week 8	• Final Project

\* Bloodstain, Toxicology, Metals, and Paint are secondary and will be covered if time permits

**Canvas:** It is your responsibility to check for new announcements, notes, or handouts posted on Canvas. Valuable practice problems and resources are also listed and should be used. All grades will be posted on Canvas.

**Email:** All emails should have in the subject line: Chem 500. Responses will be as prompt as possible; however, please give me at least 24 hours to respond. If it has been longer than 24 hours, please send me a reminder ☺ Email is generally not checked on the weekends.

**Late assignments:** Late assignments make it difficult to learn the amount of material covered and consequently will lose 10% of the points of the assignment per day (including Saturday, Sunday and break days). All assignments will be worth 0 points beginning 1 week after the due date. In the event of illness or other catastrophic evidence you must notify me via e-mail as soon as possible to receive an extension (documentation may be requested). Unfortunately, technology issues cannot be an acceptable reason for an extension.

**Academic Integrity Policy:** In most cases, plagiarism is not intentional at the graduate level. If an assignment is obviously (or potentially) plagiarized the benefit of the doubt will be given the first time with a warning. A second time will result in a zero for that homework. A third time will result in failure of the course and documentation on your academic record.

**Academic Integrity:** As an institution guided by Christian principles, the University of Saint Francis places the highest importance upon honesty in all academic work. As such, academic integrity is a fundamental principle of collegial life at the University of Saint Francis and is essential to the credibility of the University's education programs. Moreover, because assessment may be competitive, students who misrepresent their academic work violate the rights of their fellow students. The University of Saint Francis, therefore, views any act of academic dishonesty as a serious offense requiring disciplinary measures, including failing the assignment, failing the course, and even expulsion from the University. In addition, an act of academic dishonesty may have unforeseen effects far beyond any officially imposed penalties. Violations of academic integrity include, cheating or assisting others to cheat. Examples of academic dishonesty include plagiarism, misrepresenting data, falsification of academic records or documents and unauthorized access to computerized academic or administrative systems. For consequences of academic dishonesty, please refer to the USF Student Handbook.

**Disability Statement:** Any student who may require class or test accommodations based on the impact of a documented disability should contact Geneva Burgess, Coordinator of Student Disability Services in 210 Pope John Paul II Center (260)399-7700 ext. 6075 or [gburgess@sf.edu](mailto:gburgess@sf.edu) Ms. Burgess coordinates reasonable accommodations for students with documented disabilities. The student is responsible for communicating accommodations with the instructor in order to utilize those accommodations. More information in regards to registering for services and documentation can be at [www.disabilityservices.sf.edu](http://www.disabilityservices.sf.edu) . Any student who has a condition that requires special consideration in terms of lecture, laboratory, or testing should see me as soon as possible so that appropriate accommodations can be arranged.

**Title IX.** The University of Saint Francis is committed to fostering a safe and supportive environment conducive to academic achievements and healthy interpersonal interaction. Discrimination, harassment, and sexual misconduct on the part of a member of the USF community is clearly inconsistent with these purposes, and can be a violation of state and federal law. In its employment practices, selection of students, and administration of all programs and activities, the University of Saint Francis maintains a policy of non-discrimination regarding age, race, color, national origin, religion, gender, disability, genetics and veteran status.

Students who believe they have been subjected to discrimination or harassment or retaliation in violation of USF policies may report their concern to a university official or the University Title IX Coordinator, Dr. Robert A. Pastoor, 260-399-7700, ext. 6745, Trinity room 137.

You may seek advice from certain resources who are not required to tell anyone else your private, personally identifiable information unless there is cause for fear for your safety, or the safety of others. Sharing with a faculty member is considered 'private reporting' and s/he will be able to direct you to who can help.

For more information please reference the Student Handbook or contact the Title IX Coordinator, Dr. Robert Pastoor, 260-399-7700, ext. 6745, Trinity room 137.