CHEM 1025 Intro to Forensic Chemistry
MTWR 3:30 – 5:25 PM
Room 264 Reiss

Instructor: Dr. Mohammad Itani
Office: 240 Reiss **Office Hours**: M-Th 12:00 – 1:00 PM
Contact: e-mail: mi79@georgetown.edu, Tel: (202) 687-6225

With the beginning of the crime scene investigation (CSI) shows on TV, people started to show curiosity and interest in this field. West Virginia University was one of the leaders in starting a forensic chemistry major in their program. After 9/11/2001, the demand for forensic investigators was overwhelming which urged more universities to start this major in their programs. I thought it would be a good idea to offer a non-science major course that fulfills the requirements for chemistry or a science course and at the same time it would be an interesting topic for a lot of non-science major students.

Text Book: "Investigating Chemistry, A Forensic Science Perspective", by Matthew E. Johll, 3nd or 4th Edition, Freeman (e-book is an option).
Homework: Achieve Learning https://achieve.macmillanlearning.com/courses/2ooo7g

Course Description

This is a 3 credit course which is designed for the non-science major students to stimulate their interest in the forensic chemistry and help them appreciate and understand ***the basic fundamental concepts of chemistry***. In each chapter, chemical concepts related to a forensic topic are introduced in addition to a brief description of an analytical instrumentation or methodology used in crime investigation and a case study.

The main purpose of this course is to deliver the chemistry concepts to students without going into great details.

Course Objectives

By the end of the semester, it is expected that the student should have a clear idea of what forensic chemistry is all about including definition, history, sub-disciplines, evidence handling, reliable analytical methods and accurate data, critical thinking and scientific approaches in crime investigation in addition to the basic fundamental concepts of general chemistry. Student should have a general idea about the analytical instrumentation used in a forensic lab.

Honor System

The Georgetown University Honor Pledge:
In the pursuit of the high ideals and rigorous standards of academic life,
I commit myself to respect and uphold the Georgetown University Honor System:

To be honest in any academic endeavor, and
To conduct myself honorably, as a responsible member of the Georgetown community, as we live and work together.

You are responsible for familiarizing yourself with the Georgetown University Honor System. Information can be found at: http://www.georgetown.edu/undergrad/bulletin/regulations6.html

Classroom Conduct

In this course, as well as in all other courses, the academic policies and conducts of Georgetown University are applied.
I am committed to maintaining a classroom environment free of harassment and discrimination. I value different backgrounds and communication styles and I ask that all of you contribute to making a high standard of classroom civility by being respectful of your peers, your instructor and the regulations outlined in this syllabus. The use of cell phones, PDA's, laptop computers (except for taking notes), etc. is not allowed during lectures. Eating or drinking in the classroom is prohibited by Georgetown University's policy.

Course Structure

Attendance is mandatory and counts 5% of the final grades. Please inform me if you have an excuse. One unexcused absence will cost you 2%. Two unexcused absence will cost you 3%. Three unexcused absence will cost you %.

Exams: There will be 3 x 60 min exams on **July 14, July 22, and July 30**. Each exam counts 15% of the final grades, total of 45% of the final grades.

Achieve Homework: The Achieve homework counts for 25%.

Final Exam: The final exam is a comprehensive and cumulative exam which counts 25% of the final grades and will be given on **August 7** in the last class session.

Letter grades are determined based on your cumulative total raw score during the semester. The letter grade equivalents are as follows:

Raw score	*Letter grade*	*Raw score*	*Letter grade*
92.5-100	A	72.5-77.4	C
89.5-92.4	A-	69.5-72.4	C-
87.5-89.4	B+	67.5-69.4	D+
82.5-87.4	B	59.0-67.4	D
79.5-82.4	B-	00.0-58.9	F
77.5-79.4	C+		

Subjects to Be Covered

Chapter I **Introduction to Forensic Chemistry**
Chapter II **Evidence, Collection and Preservation**
Chapter III **Atomic Clues**
Chapter IV **Chemical Evidence**
Chapter V **Chemistry of Bonding: Structure and Function of Drug Molecules**
Chapter VI **Properties of Solutions I: Aqueous Solutions**
Chapter VII **Properties of Solutions II: Intermolecular Forces and Colligative Properties**
Chapter VIII **Drug Chemistry**
Chapter IX **Arson Investigation**
Chapter X **Chemistry of Explosions**
Chapter XI **Estimating the Time of Death**
Chapter X11 **The Nuclear Age: Energy, Medicine, and Terrorism**
Chapter XIII **Poisons**
Chapter IXV **Identification of Victims: DNA Analysis**

Dates to Remember

Classes Begin	7/7/2025
Classes End	8/7/2025
Last Day to Add/Drop	7/10/2025
Withdrawal Period Begins	7/11/2025
Undergraduate Grades Due	8/11/2025

Looking forward to working with you and good luck!