

**CHEM 5700 – Advanced Analytical Chemistry Laboratory
Spring A, 2024**

Instructor	Professor Jennifer S. Shumaker-Parry Office: TBBC 2424 Phone: (801) 585-1434 E-mail: shumaker-parry@chem.utah.edu
Lecture	5700-001 11:50 a.m. - 12:40 p.m., TTh, JTB 320
Laboratory	TBBC 2626 002 WF 1:00-5:00 p.m. 003 T/Th 1:00-5:00 p.m. 004 T/Th 7:30-11:30 a.m. 005 T/Th 5:00-9:00 p.m.
Office Hours	1:00-2:00 p.m., Tuesdays (Office or Zoom) Or by appointment. Email, call or stop by to make an appointment.
Exams	Exam #1: Thursday, February 1 in class. Exam #2: Tuesday, February 27 in class.

Important Dates

Friday, Jan. 12, last day to drop, elect CR/NC, or audit a first session course.

Friday, Feb. 2, last day to withdraw from a first session course.

Prerequisites: You must have completed CHEM 3000 prior to enrolling in this course.

Course Canvas site: <https://utah.instructure.com/courses/941799>

Course summary: This course provides experience with quantitative instrumental analysis. Both physical principles of techniques and applications for chemical analysis will be discussed. Related instrumentation and data analysis will be included. Communicating scientific methods, data analysis, and significance of results is a critical part of analytical chemistry. Experience in preparing laboratory reports will be an integral part of the course.

Learning objectives

- 1) Discuss the principles of instrumental methods.
- 2) Describe and implement quantitative instrumental techniques.
- 3) Determine and discuss sources of error and the limits to quantitative measurements.
- 4) Communicate the significance of scientific results in writing and presentations.

Teaching Assistants

Leon Guerra, email: leon.guerra@utah.edu, Section 002 WF 1-5 p.m.

Perry Martin, email: u1247157@utah.edu, Section 003 TH 1-5 p.m.

Katie Valerio, email: u1252030@utah.edu, Section 004 TH 7:30-11:30 a.m.

Sanaz Habibi, email: sanaz.habibi@utah.edu, Section 005 TH 5-9 p.m.

Text: *Principles of Instrumental Analysis, 7th Edition*, by D. A. Skoog, F. J. Holler, and S.R. Crouch (2018). A digital version is included in the fees for the course – you can opt out, but must do so by Jan. 19. If you prefer a hard copy, there is a copy of the textbook available for 2-hour reserve at the library. Both used and new hard copies are available for purchase online. The ISBN for the hard copy is 9781305577213 and the ISBN for the digital version is 9781337468039.

Additional materials will be available on Canvas. You are responsible for all materials posted on Canvas

Course requirements

Exams

1. Exam #1 will be given in class on Thursday, Feb. 1, 2024.
2. Exam #2 will be given in class on Tuesday, Feb. 27, 2024.

Problem sets

Problem sets will be posted on Canvas. Solutions to the problem sets also will be posted on Canvas. The problem sets will not be collected for points.

Lab reports

For each laboratory experiment, a lab report will be submitted through an assignment on Canvas. Details about the laboratory reports are included in a separate document.

Grading

1. Lecture		Points
	Midterm Exam	100
	Final Exam	100
	<u>Lecture Subtotal</u>	<u>200</u>
2. Laboratory		
	Comprehensive reports, 2 at 50 points each	100
	Memo reports, 2 at 50 points each	100
	Presentation reports, 2 at 50 points each	100
	<u>Lab Subtotal</u>	<u>300</u>
	Course Total	500

Technology: All course materials will be accessible on Canvas. If Zoom is used, it will be through Canvas. Please be sure you are familiar with the different features of Zoom, including the chat functions. For any online assignment submissions, you are responsible for submitting the assignment with the required naming convention and correct file extension.

University Policies

Academic dishonesty: By submitting an assignment, you are representing that it is your own work and that you have followed the rules associated with the assignment. Incidents of academic misconduct (including cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating on an assignment) will be dealt with severely, in accordance with the Student Code (<https://regulations.utah.edu/academics/6-400.php>). A single instance of academic misconduct may result in a failing grade for the course. Multiple instances of academic misconduct may result in probation, suspension or dismissal from a program, suspension or dismissal from the University, or revocation of a degree or certificate.

Plagiarism Software: I have elected to use a plagiarism detection service in this course. Assignments will be submitted to this service on Canvas.

The Americans with Disabilities Act: The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability & Access, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability & Access.

Addressing Sexual Misconduct: Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted on the basis of your sex, including sexual orientation or gender identity/expression, you are encouraged to report it to the University's Title IX Coordinator; Director, Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or to the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to police, contact the Department of Public Safety, 801-585-2677(COPS).

University Safety Statement: The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit <https://safeu.utah.edu>

Wellness Statement: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.