CHEMISTRY 3000 – Quantitative Chemical Analysis
Spring Semester, 2020

Instructor: Professor Jennifer S. Shumaker-Parry
Office: TBBC 2424  Phone: (801) 585-1434
E-mail: shumaker-parry@chem.utah.edu

Lectures: 10:45 a.m. – 11:35 p.m., TH, HEB 2004

Laboratory sections:

Section 002: 12:55 p.m. – 5:00 p.m., TH, TBBC 2622
  TA: Ms. Julia Case, u1026025@gmail.com
Section 003: 12:55 p.m. – 5:00 p.m., MW, TBBC 2622
  TA: Ms. Alexandra Schmeltzer, alex.schmeltzer@utah.edu
Section 004: 5:00 p.m. – 9:00 p.m., TH, TBBC 2622
  TA: Mr. Nicholas Vitti, nicholas.vitti@utah.edu
Section 005: 5:00 p.m. – 9:00 p.m., MW, TBBC 2622
  TA: Ms. Amy Morren, u1202488@utah.edu


Course website: The Canvas course website may be accessed through the Campus Information System. The address for entry is: https://utah.instructure.com/courses/601385

Office hours: Tuesdays, 11:45 p.m. – 12:45 p.m., Thursdays 1:00-2:00 p.m., or by appointment.

Important dates: Friday, Jan. 17, last day to drop a semester length course.
  Friday, March 6, last day to withdraw from a semester length course.

Course content
The course introduces quantitative chemical analysis. We will discuss statistical analysis of data, chemical equilibrium theory, and analytical measurement methodologies. Laboratory experiences with analytical measurement methods will include application of statistical methods of data analysis.

Learning objectives
• Recognize the distinction between qualitative and quantitative chemical analysis.
• Apply statistical methods for evaluation of laboratory data.
• Understand methods for calibration and sampling applied to quantitative analysis.
• Assess methods of analysis related to chemical analysis goals such as detection limits.
• Use chemical equilibrium theory to design quantitative analyses and interpret results.
• Perform graphical analysis to analyze laboratory results.
• Comprehend and apply analytical methods based on titrations, separations, mass spectrometry, electrochemical measurements, and spectroscopy at an introductory level.

Course requirements
Exams: No make-up or early exams will be offered. See lecture schedule for exam dates.

Homework: Homework is due at the beginning of class one week after it is assigned. No late homework will be accepted. E-mailed or faxed homework papers will be discarded. Late papers will be returned ungraded. You are advised to keep a copy of your homework to study for an exam when the homework due date is close to an exam date.

Laboratory: The report of your analysis will be due to your TA in lab one week following the last scheduled lab period for that experiment. Late results will be graded for partial credit. See laboratory guidelines for more details.
Grading

<table>
<thead>
<tr>
<th>Lecture</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework (all homework assignments combined)</td>
<td>10%</td>
</tr>
<tr>
<td>Exam #1</td>
<td>10%</td>
</tr>
<tr>
<td>Exam #2</td>
<td>10%</td>
</tr>
<tr>
<td>Exam #3</td>
<td>10%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>40%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laboratory</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total for Laboratory Experiments (1-9, 6.65% each)</td>
<td>60 %</td>
</tr>
</tbody>
</table>

Grand total (Lecture + Laboratory) 100%

University Policies

Academic Dishonesty. Analytical Chemistry is a subject where honesty in measurements, reporting of data, uncertainties, and errors is crucial. The results of analysis are used in environmental assessment (affecting health of people and the entire planet), clinical diagnosis (life and death decisions), and legal questions (where fortunes or even life may be at stake). As a result, no dishonesty or cheating can be tolerated in this course because you are studying to become an accurate and honest analytical chemist. Therefore, your homework, lab results, and exams must represent your own work. 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 (http://www.admin.utah.edu/ppmanual/8/8-10.html). 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.

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 Services, 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 Services.

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, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or 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 the police, contact the Department of Public Safety, 801-585-2677(COPS).

Wellness. 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.

Safety. The University of Utah values the safety of all campus community members. To report suspicious activity, 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 safeu.utah.edu.