Faculty Instructor: Dr. Alexander Jacobs, Leigh 202A
jacobsa@chem.ufl.edu
Office Hours: Friday TBD Leigh Hall 202
Simultaneously by Zoom ID: 882 880 7636 Password: Officehr

Teaching Assistants: Kate Huddleston kdavis2@chem.ufl.edu
Tingting Yan vantingting@chem.ufl.edu
Brian Martinez bmartinez1@ufl.edu

Prep TA: Tong Huang tonghuang@chem.ufl.edu

Undergraduate Teaching Assistants:
Malhar Patel Melisa Gonzalez
Amsha Thadisetti Hala Hachem
Srikan Savaram Priyanka Chandra
Sarika Madan Madison Petitpas
Victor Vencato Camryn Shen
Laura Porras Joyce Jiang

Course Website: Canvas; Please visit the website regularly for announcements and resources. Everything is posted under “Files”
Videos available at: https://www.chem.ufl.edu/undergraduate/courses-and-curriculum/chemistry-laboratories/analytical/

Required Materials

Laboratory Manual: No lab manual is required. All materials will be posted on the e-learning site, under Files.
Laboratory Notebook: Any sensible laboratory notebook, to be used only for this lab, is suitable. You will turn in scans or photos of your notes, retaining the original notebook for your own use. Please be sure that what you submit is legible and clear.
Laboratory Attire: The Essentials: Long, loose-fitting pants, full shirt, shoes which cover the feet, departmentally-approved safety glasses, tie-back for long hair.

Course Objectives

CHM 3120L is an introductory laboratory course in Analytical Chemistry. By the end of the semester, students are expected to demonstrate:
· proper laboratory techniques for quantitative chemical measurements including accuracy on unknowns
· knowledge of a select group of analytical methods
· competence in data analysis, statistics and preparation of professional laboratory reports
COVID-19 PPE  We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following practices are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not vaccinated, get vaccinated. Vaccines are readily available at no cost and have been demonstrated to be safe and effective against the COVID-19 virus. Visit this link for details on where to get your shot, including options that do not require an appointment: https://coronavirus.ufhealth.org/vaccinations/vaccine-availability/. Students who receive the first dose of the vaccine somewhere off-campus and/or outside of Gainesville can still receive their second dose on campus.

- You are expected to wear approved face coverings at all times during class and within buildings even if you are vaccinated. Please continue to follow healthy habits, including best practices like frequent hand washing. Following these practices is our responsibility as Gators.
  - Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
  - Hand sanitizing stations will be located in every classroom.
  - You are required, at all times, to wear gloves and goggles. Gloves will be provided. Gloves will be disposed of when you leave the lab in the designated waste by the exit.

- If you sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email covid@shcc.ufl.edu) to be evaluated for testing and to receive further instructions about returning to campus. UF Health Screen, Test & Protect offers guidance when you are sick, have been exposed to someone who has tested positive or have tested positive yourself. Visit the UF Health Screen, Test & Protect website for more information.
  - Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.
  - If you are withheld from campus by the Department of Health through Screen, Test & Protect you are not permitted to use any on campus facilities. Students attempting to attend campus activities when withheld from campus will be referred to the Dean of Students Office.

- Continue to regularly visit coronavirus.UFHealth.org and coronavirus.ufl.edu for up-to-date information about COVID-19 and vaccination.

You will enter through the door on the sound end of LEI 108 and exit from the door on the north end (see diagram below)
Grading
Your grade will be determined by the accuracy of your results, the quality of your reports, the quality of your laboratory notes, your competence in essential laboratory manipulations, and your performance on written quizzes. Grades will be posted in the Canvas gradebook.

<table>
<thead>
<tr>
<th></th>
<th>Accuracy</th>
<th>Questions, Reports and Notes</th>
<th>Practical Exams</th>
<th>Written Quizzes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 @ 35 points</td>
<td>8 @ 70 points</td>
<td>3 @ 40 points</td>
<td>3 @ 45 points</td>
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<tr>
<td></td>
<td>210</td>
<td>560</td>
<td>120</td>
<td>180</td>
</tr>
</tbody>
</table>

The following grading scale will be used:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
<th>Letter Grade</th>
<th>Percentage</th>
<th>Letter Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≥93</td>
<td>B-</td>
<td>≥80</td>
<td>D+</td>
<td>≥67</td>
</tr>
<tr>
<td>A-</td>
<td>≥90</td>
<td>C+</td>
<td>≥77</td>
<td>D</td>
<td>≥64</td>
</tr>
<tr>
<td>B+</td>
<td>≥87</td>
<td>C</td>
<td>≥73</td>
<td>E</td>
<td>&lt;60</td>
</tr>
<tr>
<td>B</td>
<td>≥83</td>
<td>C-</td>
<td>≥70</td>
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There may be a curve, there may not be a curve.

Notes:

1) Prior to the first lab, visit the e-learning site and review Preliminary Handouts 1-3, 5: laboratory safety, basic lab rules, laboratory notebook, and fundamental techniques. Also read the handout for Experiment #1.

2) You will need to bring a copy of the lab experiments to your lab period. This can be done with either a print out, on a tablet or a laptop. It is advised not to use your phone.

3) On the first day, you select a workstation. This is where you will complete your experiments. Everything you will need will be at that station.

4) A minimum of 18 out of 35 accuracy points will be given if the experiment is performed, the results are calculated correctly, and deadlines are met.

5) For labs 1-5, there will be questions at the end of the lab handout. You will turn in the answers to these questions and calculations along with your results, tabulated and presented nicely. Starting with lab 2, you will be asked to write a section of a lab report (Intro, Experimental, Results and Discussion and Conclusion) with each lab. For lab 6 and 7, you will be writing a full lab report. More details will be given about each section as the semester goes on. There are some
examples of lab reports on Canvas. Videos covering scientific writing will be posted to Canvas.

6) Lab reports and answers to questions must be typed. By lab 2, all calculations must be shown through Microsoft Equation Editor.

7) A copy of your lab notes must be submitted with your reports.

8) Lab reports are due at the specified time on Canvas for your section.

9) A 10% penalty off the final score of the report will be assessed each time a result or report is submitted late. The maximum permissible late time is one week.

10) All written work (late or otherwise) must be received by 3:00 PM on Friday, 4/15/22.

11) Each student is expected to pass laboratory practical exams on three essential analytical skills (use of the analytical balance/weighing by difference, quantitative transfer/use of a volumetric flask and use of a pipets). The tests will be given by the TA during the regular laboratory period at times mutually acceptable to both the student and the TA.

12) Three written quizzes will be given on the dates specified on the schedule. Quizzes will be given on Canvas. They are open note, but you must work alone. If you wish to go over your quiz, please contact your TA. The questions in your lab write ups will greatly help you prepare for the quizzes.

13) Attendance is required at all scheduled laboratory periods, unless you are informed otherwise by your TA or the instructor.

14) Plagiarism will not be tolerated. Students are expected to obey the University of Florida Honor Code, detailed at

The Honor Code ([http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/](http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/)) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructors or TAs in this class.

The sale or transfer of graded or ungraded course materials to another student for use in this course (current or future semesters) is in violation of the Honor Code. All violations will be reported.

15) Make-ups will be granted only when justified. If you know ahead that you will have to miss lab, notify your TA and Dr. Jacobs in advance. If you are sick and cannot reach anyone before lab, you will have to present written evidence of the illness. If you are not feeling well, do not come to lab.

16) If you are involved in a laboratory accident, you must go to the infirmary for treatment.

17) Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

Course Fees: You have already paid this, but the fee for this course is $45.00.
<table>
<thead>
<tr>
<th>Dates (starting date)</th>
<th>Preparation</th>
<th>Lab Work</th>
<th>Quizzes</th>
<th>Assignment Due</th>
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</thead>
<tbody>
<tr>
<td><strong>Begin Jan 10th</strong></td>
<td>Read Handouts 1-6 Read Experiment 1</td>
<td>Check in Experiment 1 Balance use Pipet use/calibration</td>
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<tr>
<td><strong>Week 2 (week of Jan 17th)</strong></td>
<td>No in person lab this week</td>
<td>No lab due to MLK Jr. Day</td>
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<tr>
<td><strong>Week 3 (week of Jan 24th)</strong></td>
<td>Read Handout 7 Read Experiment 2</td>
<td>Begin Soda Ash Titrations HCl/NaOH titrations</td>
<td>Experiment 1 results and lab notes</td>
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<tr>
<td><strong>Week 4, (week of Jan 31st)</strong></td>
<td>Review handouts to prepare for Quiz 1</td>
<td>KHP/NaOH titrations Finish Soda Ash</td>
<td>Quiz 1 and Deadline for Weighing Practical</td>
<td></td>
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<tr>
<td><strong>Week 5 (week of Feb 7th)</strong></td>
<td></td>
<td>Beer’s Law measurement</td>
<td>Soda Ash questions, results, Introduction and notes due</td>
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<tr>
<td><strong>Week 6 (week of Feb 14th)</strong></td>
<td>Read Experiment 4</td>
<td>Spectrophotometric Fe</td>
<td>Beer’s Law questions, results, Experimental and notes due</td>
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<tr>
<td><strong>Week 7 (week of Feb 21st)</strong></td>
<td></td>
<td>Spectrophotometric Fe Finish Lab 4</td>
<td>Quiz 2 Deadline for Pipetting Practical</td>
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<tr>
<td><strong>Week 8 (week of Feb 28th)</strong></td>
<td>Read Experiment 5 Watch ISE video</td>
<td>Chloride Ion Selective Electrodes</td>
<td>Spec Fe questions, results, Results and Discussion and notes due</td>
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<tr>
<td><strong>Week 9, (week of March 7th)</strong></td>
<td>No in person lab this week</td>
<td>No lab this week due to Spring Break</td>
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<td><strong>Week 10 (week of March 14th)</strong></td>
<td>Read Experiment 6</td>
<td>Fluorescence of Quinine; Standard additions and Determination of quinine in cinchona bark</td>
<td>ISE questions, results, Conclusion and lab notes due</td>
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<tr>
<td><strong>Week 11 (week of March 21st)</strong></td>
<td>No in person lab this week</td>
<td>At home Chromatography assignment</td>
<td>Quinine in tonic water report and notes due</td>
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<tr>
<td><strong>Week 12 (week of March 28th)</strong></td>
<td>Read Experiment 7</td>
<td>Chromatography of Soda</td>
<td>Quiz 3 Deadline for volumetric flask practical</td>
<td>At home Chromatography assignment</td>
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<tr>
<td><strong>Week 13 (week of April 4th)</strong></td>
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<td></td>
<td>Chromatography of Soda report and notes due</td>
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<tr>
<td><strong>Week 14 (week of April 11th)</strong></td>
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<td>Back up week</td>
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