GRADING POLICY.

Note: ALL EXPERIMENTS MUST BE SUCCESSFULLY COMPLETED INCLUDING THE WRITTEN AND ORAL REPORT IN ORDER TO RECEIVE A PASSING GRADE IN 5.310.

Each experiment will be graded on the basis of quality of the laboratory work and the write-up. The TA responsible for that experiment will grade the experiment. Your TA should discuss the comments and evaluations with you. Questions, suggestions, comments, and complaints not handled by the TA's should be directed to the Instructor Dr. Dolhun.

All experiment reports, which have been graded, are returned to you with a date stamped on the cover sheet. Please take time to check the total score, and to look at the comments made by the TA.

You have SEVEN (7) calendar days from the TA return date stamped on the cover sheet to request any review of the grading of your report this does not apply to reports turned in late. This request should go first to the TA responsible for the grade and then if a question related to grading remains the faculty teaching 5.310 (see details under Laboratory Organization). After seven days from TA return date, no report will be accepted for change of an incorrectly added score or any re-evaluation. If your Report is re-graded, it is your responsibility to verify that your grade has been updated on your 5.310 grade record. Similarly, you have 24 hours from the TA posting of grades from an Oral Report to request any review of the grading of your report. You must request a review for an Oral Report grade via email to the TA with a copy to the course Instructor. After 24 hours, Oral Report grades are considered final.

Grading policy:

Final Grade = max. 500

A. Experiment Grade:

100 points per experiment

(a) **Lab Quiz** (check the lab schedule; closed book ~15 min.). **20** points

(b) **Pre-lab preparation**. **5** points
It is essential that you understand the experiment while you mentally process what you have read. Write in your lab notebook a couple paragraphs on the purpose, safety, and any anticipated highlights or insights of the experiment. The procedure to perform the experiment can be found in the Laboratory Manual which you are allowed to bring with you to the lab.

(c) **The factual record**. **5** points
Data, procedure signed and dated. It is important to develop good habits in keeping a notebook.

(d) The Staff's assessment of technique, deportment, safety, etc. **5** points

(e) **Lab Report** (either written or oral) **65** points
This includes points for correct identification of unknowns and data quality

The major part of the grade for the Lab Report is based on the analysis, interpretation and quality of the results, as well as the calculations, graphs, and the discussion sections. The Lab Report should demonstrate what you learned from the experiment and your ability to interpret and explain your experimental results. No grade for an experiment will be given without the laboratory report.

B. <u>Grading Scale:</u>

100% - 97%.....A+
96.9% - 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% - 67%.....D+
66.9% - 63%.....D
62.9% - 60%.....D-
59.9% and less.....F

The grading scale is carefully defined above so that there are no questions at the end of the course. We use the attendance records in the case of borderline grades that fall within half point of a higher grade. The way the attendance works is we calculate up the total number of lectures that attendance was taken in. We then credit each student with two absences in case a student was sick or accidently missed a lecture. If you have attended all of the required lectures less the two then, if your grade is within half point of a higher grade we will round the grade up to the next higher grade. If you did not attend the specified number of lectures your grade will remain unchanged. Missing lectures and not attending class will not lower your grade but can and does help students that fall within half point of a higher grade. If your grade is above 96.9 and below 97.0 say 96.95 then in those cases only, your grade would be automatically rounded to the next higher grade.

C. Details of the Experiment Grade

Laboratory Quizzes (20 points)

There will be five lab quizzes during the semester. The quizzes will be given in the laboratory on the days indicated in the schedule. Any topic related to the theory, procedure, lecture, analysis and safety of the experiment may be fairly probed. The emphasis should be on the lab manual and **application** of information from the morning lectures.

IF YOU MISS A LAB QUIZ DUE TO AN **EXCUSED** ABSENCE FROM LAB REQUESTED PRIOR TO THE QUIZ DATE, SCHEDULE A MAKE-UP QUIZ WITH YOUR TA AS SOON AS POSSIBLE. If you skip lab on the day of a quiz without notifying both the TA and Instructor, you will receive a zero grade for that quiz.

Pre-lab Preparation (5 points)

The quality of the pre-lab preparation is assessed based on your writing a creative paragraph or two which shows the TA that you have read and understand the experiment.

Post Laboratory Notebook (5 points)

Your TA, based on the pages you turn in at the END of each day's experimental work, will assess the quality of each day's laboratory record. Organization, comprehension, completeness, lacks of extraneous or irrelevant entries will all be considered. See the section on notebooks for more details. These pages may be read in parallel with the written reports and examined during oral reports.

Staff Evaluation of Laboratory Techniques (5 points)

These are guidelines for evaluating laboratory techniques for the students. The TA (along with other staff members as appropriate) will assess and keep a record of the following:

1. The student is able to follow instructions.
2. The student wears goggles and observes lab safety.
3. The student arrives in laboratory on time.
4. The student is able to complete experimental work and leave the lab by 5:00 p.m.
5. The student handles balances and other instruments with care.
6. The student comes to the laboratory well prepared, having read the experiment in the lab manual, and has the pre-lab notes in the lab notebook.
7. Work in lab is planned and well organized.
8. The student works well with the lab partner and is cooperative with others in the lab.
9. The student is able to work independently.

10. The student asks good questions.

Formal Written Report (65 points)

All categories listed below will be considered in grading the written report, but the relative weight will depend on the nature of the experiment. Your final grade for each experiment will be based on:

(1) Results: accuracy, yield, and unknown identification. * See grade sheets for further information.
(2) Data Analysis: correct manipulation of data, error analysis, and sample calculations.
(3) Technique: Efficient use of time, independence, and experimental expertise.
(4) Organization, comprehension, completeness, lack of extraneous or irrelevant information
(5) Quality of discussion and conclusion
(6) Quality of writing/ ability to communicate scientific ideas-while not a writing class it is expected that the formal report will be a well written document. The ability to communicate one's research is an essential component of scientific research.
(7) The agreement between the factual record and the report. **Please note that if an observation, measurement, procedural step etc. does NOT exist in the factual record, it cannot exist in the written report!!**

- For some experiments, you will be given the opportunity to identify unknowns during laboratory time and thus receive part of this grade in advance. This will permit the opportunity to collect additional data and re-evaluate unknowns to the extent scheduled time remains for that experiment and thus reclaim SOME of the points lost due to the initial incorrect identification.

Late Lab Report Penalty

Late written reports are penalized by loss of [3*(n-1)] + 2] grade points (n is the # of working days late) excluding weekends and holidays.

See the report format section for more details on the proper form for the report.

Note: Only hard copies of lab reports (no electronic versions) will be accepted unless otherwise requested.

5.310 Laboratory Chemistry

Fall 2017